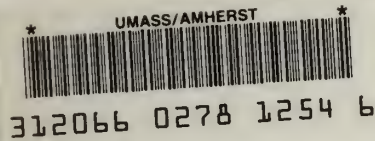


MASS. TC 40.2: C 28



A CATALYST FOR ECONOMIC GROWTH: FUNDING OF PUBLIC TRANSPORTATION IN MASSACHUSETTS

GOVERNMENT DOCUMENTS
COLLECTION

NOV 2 1990

University of Massachusetts
Depository Copy

**Prepared by
The Massachusetts Bay Transportation Authority**

**In Response to
Sections 200 and 230
of Chapter 653 of the Acts of 1989**

April 1990

902/402

The preparation of this report
was coordinated by:

Joseph D. Alviani, Esquire
Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.

With Legal, Technical and Financial Analysis

Provided by:

Palmer & Dodge
and
The First Boston Corporation

TABLE OF CONTENTS

Executive Summary	i
CHAPTER 1: Introduction	1
CHAPTER 2: Overview of the MBTA's Services, History and Financial Performance	5
CHAPTER 3: Forward Funding	44
CHAPTER 4: Regional Assessment of MBTA Operating Costs in the Context of Proposition 2½	63
CHAPTER 5: Fares and Other MBTA Revenue	81
CHAPTER 6: Survey of Other Transit Systems	94
CHAPTER 7: Conclusion and Policy Options	100

A CATALYST FOR GROWTH: FUNDING OF PUBLIC TRANSPORTATION IN MASSACHUSETTS

Executive Summary

Introduction

Concerned by the increasing amounts of borrowing necessary to finance the MBTA, as well as an increasing State subsidy for public transportation, the Legislature has directed the MBTA to analyze its funding sources and financing mechanisms.

As required by the Legislature, this study examines potential changes in the local assessment formula and the membership of the MBTA district as well as possible changes to the Commonwealth's practice of borrowing working capital for MBTA operating expenses.

The MBTA is the sixth largest public transportation system in America, moving 660,000 passengers every working day. Any analysis of the MBTA's financing mechanisms must be done in the context of the system's overall performance and the future need for public transportation. Accordingly, this report describes the connection between public transportation and economic growth, reviews the MBTA's recent service and cost control history, and discusses plans for new service and increased capacity that many public officials and business leaders think are prerequisites for continued economic growth. Within that context, this study looks at ways both to control costs and also to fairly apportion costs among riders, the cities and towns that benefit from MBTA service, and the State.

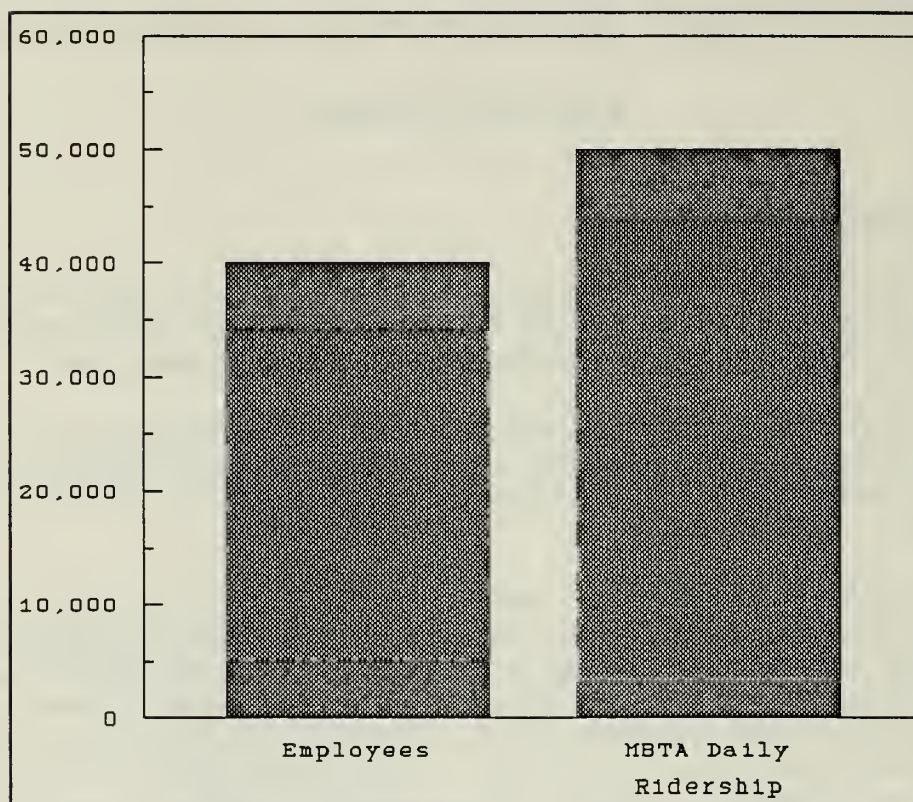
Why Care About Public Transportation?

Downtown Boston and the areas immediately surrounding it are at the heart of the Massachusetts economy. Many of the institutions that are considered to be the underlying strength of our economy -- universities, hospitals, major financial institutions -- are clustered together in this area. They are the infrastructure for our economic growth. Yet, if they are to continue to flourish and grow, our transportation system must ensure that people can move efficiently in and out of greater Boston.

Since 1982, the number of jobs in the central business district (CBD) has grown by nearly 40,000. In addition, many more tourists and shoppers are also coming into the CBD each day. During this same period, the MBTA has substantially expanded and modernized its system. Today, it carries 50,000 more people into the CBD each day than it did in 1982.

Growth in Employment and MBTA Ridership in the Central Business District: 1982 - 1988

Chart 1



Effectively, then, the MBTA has absorbed all of the increase in traffic generated by employment growth as well as a part of the increase generated by tourists and shoppers. Given the congested state of Boston's roads and highways and the extremely limited growth in parking, the substantial and growing role of the MBTA in the vitality of the CBD -- while relatively unrecognized -- is not surprising.

The MBTA will continue to be important to future economic growth. Boston cannot absorb more automobile traffic, and there will be no relief until at least 1998, when the new Central Artery and Third Harbor Tunnel open. Even, then, strict limitations on parking growth will make it impossible for many more commuters to drive into Boston.

However, many important projects are scheduled for construction in Boston during the next decade. Expected development, including major projects at North Station, South Station, Boston Crossing and the Midtown Cultural District, could increase office space by up to 20 million square feet -- the equivalent of at least 20 suburban shopping centers -- and contribute to employment growth of up to 60,000 jobs. In addition, the eventual development of the South Boston Piers area could facilitate the creation of another

20,000 jobs by the end of the decade.¹

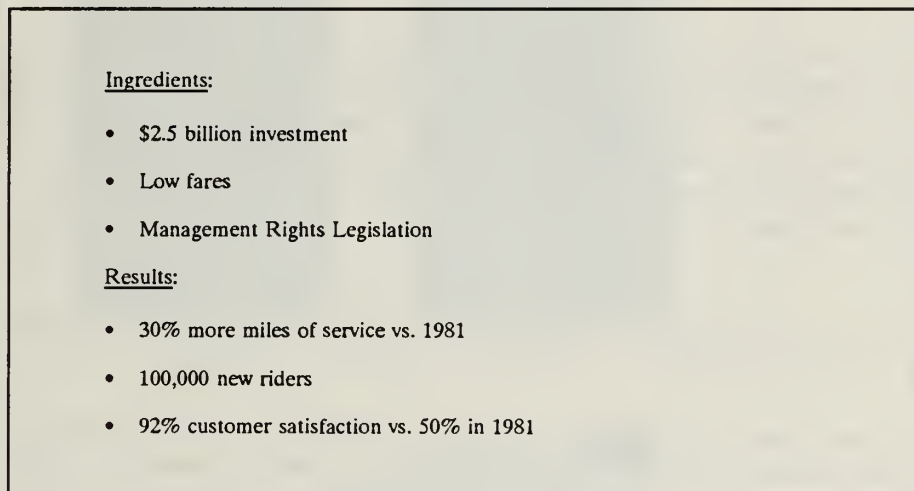
While these projects may take several years to begin and several more years to complete, it takes just as long to design and complete a major new transit service. Capital investment decisions made now pave the way for service expansion in the mid-1990s. Despite the current slowing of economic growth, this is no time to be neglectful of public transportation. Indeed, continued investment in public transportation is critical to encouraging new development.

In the past decade, two major changes -- the enactment of Management Rights legislation which led to greater productivity, and a new commitment to capital improvement in the system -- have combined with a strategy of low fares to attract customers back to the system. Total MBTA daily ridership has grown by more than 100,000 since 1982. Customer satisfaction has climbed to 92 percent, well above the 50 percent level of 1981, when the MBTA first began to measure customer satisfaction.

The MBTA now carries more passengers per mile than any other major transit system.

MBTA Comeback 1980 - 1990

Chart 2



Continued investment in the existing transit system as well as expansion to provide more service are integral components of the region's economic growth in the coming decade.

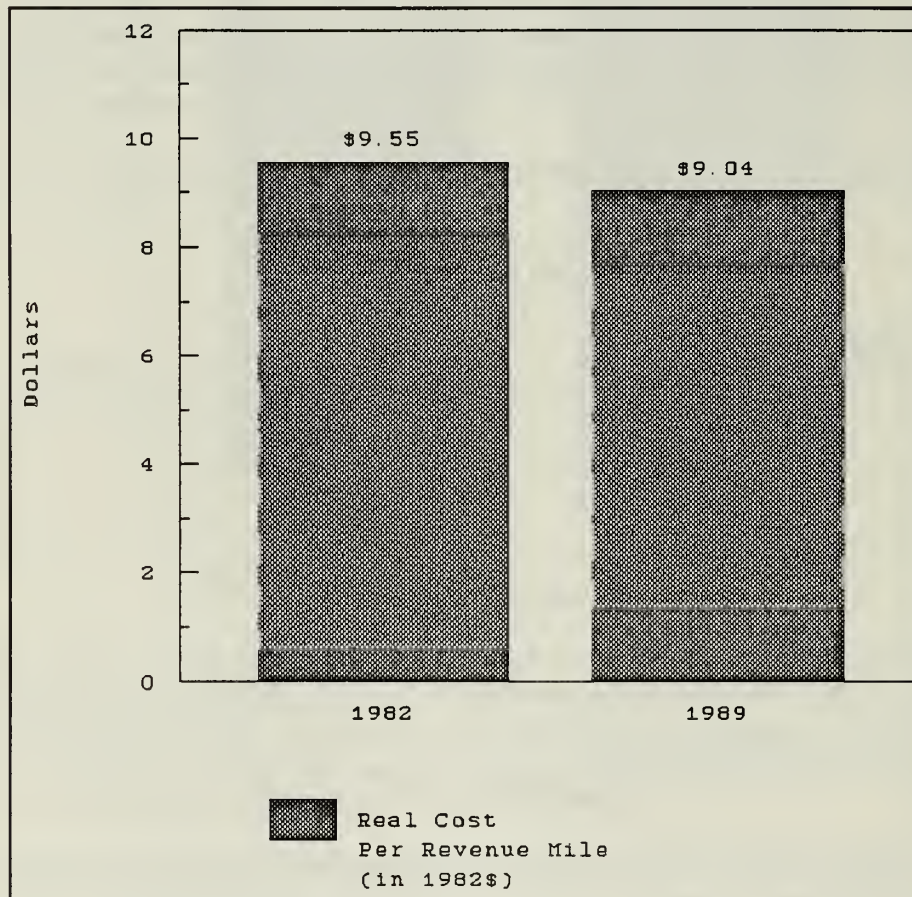
¹ Employment levels ten years into the future are difficult to predict with precision. These estimates take into consideration work by the Metropolitan Area Planning Council, the Boston Redevelopment Authority, the U.S. Department of Commerce Bureau of Economic Analysis and work done for the Central Artery project. For purposes of this study, a mid-point estimate of employment growth has been compiled from these various sources.

How Well Does The T Manage Costs?

Between FY1982 and FY1989, the MBTA's budget grew at an annual average of seven percent. This compared to ten percent for overall State spending. Moreover, adjusted for inflation, the MBTA delivers a mile of service today for five percent less real cost than in 1982.

Cost of a Mile of Service in Real Dollars is Down

Chart 3



Total budget growth has been modest despite the fact that the MBTA has had to absorb both the debt service for a major rebuilding and expansion program and rapid growth in certain business expenses such as workers' compensation, health insurance, and tort claims. While these line-items have increased rapidly, basic transportation costs -- the wages, services, and materials needed to run the system -- have grown at just 6.4 percent per year.

MBTA Has Its Own Internal Budget Busters

Chart 4

<u>INTERNAL BUDGET BUSTERS</u>	<u>ANNUAL AVERAGE PERCENT INCREASE*</u>	<u>WHO PAYS FOR A STATE AGENCY</u>	<u>WHO PAYS FOR THE T</u>
Tort Claims**	24.5%	A&F	T
Debt Service	12.8%	A&F	T
Health Insurance	11.4%	A&F	T
Pensions	8.3%	Treasurer's Office	T
<p>* T average annual increase from 1982-1989.</p> <p>** The number of tort claims against the MBTA has declined; however, the average cost per settlement or judgment has increased due to higher court awards.</p>			

More efficient use of labor is the major reason why the MBTA has been able to contain costs and reduce the real cost of service. Wages of individual MBTA operators have risen faster than inflation and are among the highest in the nation for transit workers. However, efficiency improvements through capital investment and productivity increases have more than offset increased wages. Since the Legislature enacted Management Rights legislation in 1980, the MBTA estimates it has saved \$15 million annually in labor costs.

The growing need for public transportation makes cost control even more important today. The MBTA is moving to increase efficiency and contain costs by:

- **Reducing staff.** Administrative budgets have been cut back and the MBTA expects to reduce administrative staff by 15 percent below originally projected FY1990 levels. By the end of FY1991, the MBTA expects to employ 100 fewer personnel than it did in 1988;
- **Administrative cost savings/avoidance.** The MBTA expects to save \$10 million through cost control efforts on overtime, pensions, health insurance, workers' compensation, liability insurance, out-of-state travel, subscriptions and telephone costs;
- **Tort liability.** Unlike the State and all 351 cities and towns, the MBTA has unlimited tort claim liability. The MBTA supports legislation that would give the MBTA the same liability cap that protects the State and municipalities. This legislation would save up to \$5 million per year;
- **Power costs.** The MBTA has proposed legislation that would allow it to

join NEPOOL, the New England consortium of electric power utilities. As a NEPOOL member, the MBTA could purchase electricity wholesale and save \$2 to \$3 million annually; and

- **Parking Enforcement Powers.** Currently filed legislation would provide MBTA police with ticketing power in MBTA parking lots to maximize revenue.

Costs could be contained further by examining the current binding arbitration arrangements that govern the MBTA's wage negotiations with its unions. The MBTA Advisory Board has cited recent experience with a large wage award covering two years of retroactive payments as a call for an arbitration method that provides more certainty in managing wage costs.

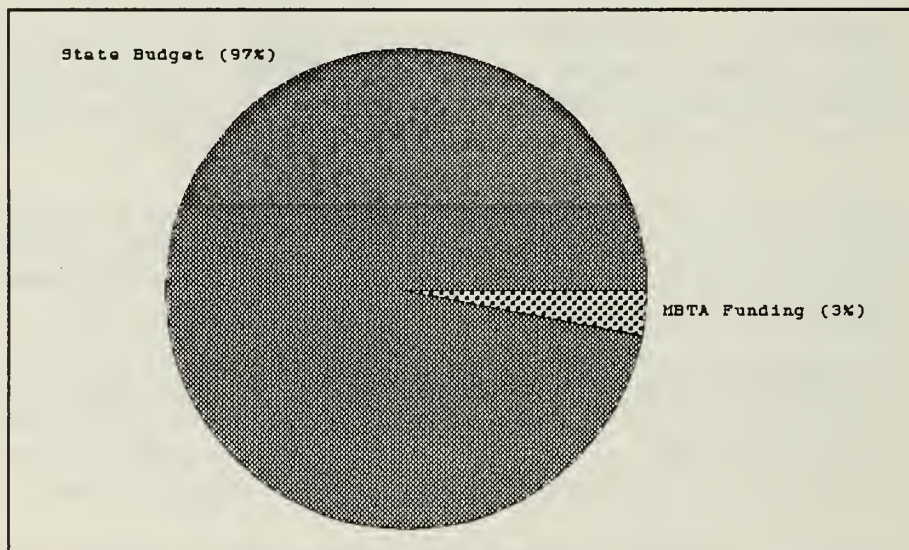
While vigorous cost control efforts can contain the rate of budget growth, they cannot eliminate budget growth, especially if the system is to expand to meet expected increases in demand. Consequently, future increases in the MBTA's budget will likely intensify the debate about how the MBTA is funded.

Who Pays for Public Transportation?

Despite cost control efforts, the State subsidy to the MBTA has rapidly increased during the past decade. Since 1971, the State's share of debt service expenses for MBTA capital improvements has remained constant at 90 percent. From 1974 to 1980, MBTA operating costs, after federal assistance and the MBTA's own fare and other revenues were deducted, were shared equally in a partnership between the State and local governments. In the 1980s, the State share of the total MBTA subsidy after revenue has grown significantly from 55 percent in 1982 to 76 percent in 1990. Despite this growth, the MBTA's subsidy represents only three percent of total State spending.

MBTA as a Percentage of State Spending

Chart 5



There are several reasons why the State's share of the MBTA's operating subsidy has increased. The primary reason is that the growth in local revenue and MBTA assessments was capped -- first by Proposition 2½ which enacted a four percent cap and then by subsequent legislation which reduced the cap to two and one-half percent. As a result of constrained revenues, the cities and towns now pay 20 percent of the subsidy for MBTA operating costs after income, down from 36 percent in 1982.

Federal operating assistance has also declined, both absolutely and in percentage terms. In 1990, the federal government will pay four percent of the MBTA's subsidy, down from nine percent in 1982. Additional reductions in the federal commitment to capital improvements in public transportation increase the burden on the State.

Finally, because of the successful strategy of fare stability designed to attract customers back to the system, the amount of costs covered by MBTA revenue has also declined since 1982. Recent fare and fee increases have halted this decline, and the MBTA currently satisfies the Legislature's recent requirement that all revenues (including non-fare revenues) cover at least 33 1/3 percent of operating costs.

Meeting this ratio in the future will require periodic fare increases. However, even if revenues continue to cover one-third of operating expenses, declining federal assistance and the two and one-half percent cap on the annual increase in the local assessment ensure that the State's share of the MBTA's total budget will continue to grow.

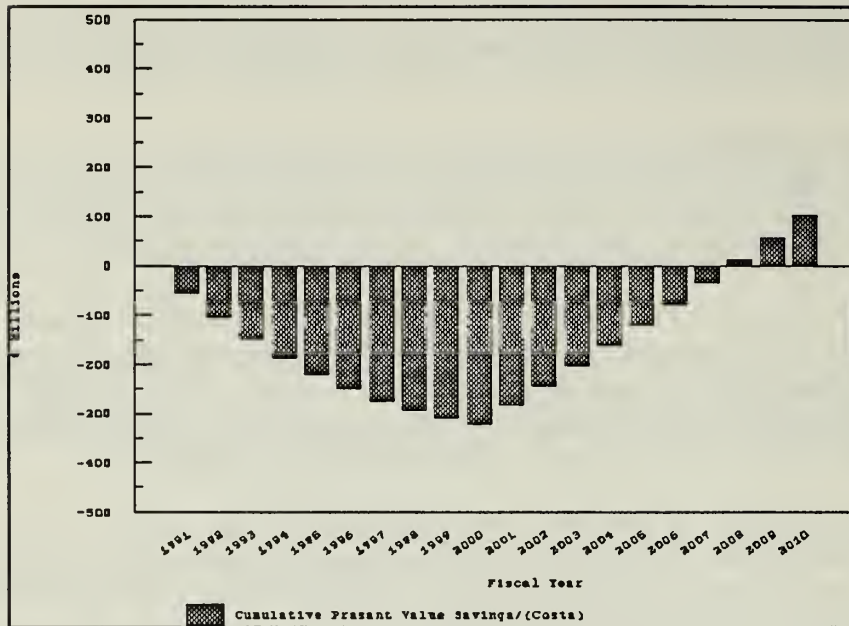
How Does the State Pay?

Since 1918, the method of meeting the day-to-day transit operating costs not covered by revenue has involved borrowing working capital with subsequent reconciliation through both the local assessment process and the State appropriation process. The Legislature has specifically requested that the MBTA develop a plan to change this and move toward "forward funding" in order to save the associated interest costs.

Two forward funding alternatives have been analyzed, full forward funding in FY1991, and incremental forward funding. Full forward funding would increase the State's appropriation by \$600 million above and beyond what it would otherwise appropriate for the MBTA in FY1991. With tax revenues insufficient to meet existing State expenses, the State would have to enter the bond market and borrow the additional cash required to forward fund the MBTA.

This means that there would be no short-term interest savings. In fact, interest costs would increase because the State would have to pay higher, long-term rates. (The MBTA and the State Treasurer currently use short-term notes to fund the MBTA's working capital needs.) Eventually, the bond would be retired and the State would begin to save money. However, the break-even point would not occur until 2008.

Cumulative Savings/(Costs) from Forward Funding
Chart 6



A second approach is to forward fund the MBTA over a period of six years. This would reduce the additional appropriation needed to about \$100 million in the first year. However, an additional \$100 million would also be required in each of the five subsequent years. As with full forward funding, there are no short-term interest savings if the State has to borrow the money. However, if the additional appropriation needed is reduced to \$100 million, it is conceivable that the State could fund the amount out of tax revenues. This would require that the Legislature either find \$100 million in new revenues or cut other State programs by \$100 million. While this would be difficult to do, it would not be nearly as difficult as finding the \$600 million needed to immediately forward fund the MBTA. Should the Legislature adopt this approach, the break-even point would be achieved in 2007, but budget outlay relief would occur by FY1997.

Forward funding would create interest cost savings within twenty years. But a change in the practice of financing MBTA working capital by itself will in no way alter the growing State share of MBTA costs.

How are Costs Distributed Among Cities and Towns?

The original assessment formula for allocating costs back to cities and towns within the MBTA district attempted to distribute costs fairly based on a number of factors and a very complicated process. It is possible to modify the current formula to increase its equity and adjust for historical distortions. Under the current two and one-half percent cap on local assessments, however, changes in the formula alone still result in a zero sum game.

There are, however, three ways to increase the amount of the local assessment. None are possible, however, without an expansion of the local revenue base beyond property taxes.

- Expand the size of the district to include all towns receiving service;
- Eliminate the State reimbursement of the so-called "non-served" communities; and
- Consider the restoration of the 50/50 partnership between the State and cities and towns for the MBTA operating subsidy with a new regional dedicated revenue stream.

The local share could be increased by \$3 to \$11 million by expanding the MBTA district to include those towns that receive either commuter rail service or private bus service that is subsidized by the MBTA. If the district were expanded to include all cities and towns with MBTA service, an additional 50 municipalities would be added. However, 42 of those 50 communities are already members of Regional Transit Authorities (RTAs), and membership in both an RTA and the MBTA would undoubtedly lead to confusion.

Currently, 25 of the 78 cities and towns in the MBTA district are reimbursed by the State for a portion of their assessment. This reimbursement policy was premised, generally, on the fact that these cities and towns do not have an MBTA rapid transit or commuter rail station. However, residents of the reimbursed communities do utilize MBTA services, as the chart below shows. The reimbursement was capped in FY1988 at \$5 million annually. To the extent that subsequent local aid cuts have not eliminated this reimbursement for certain communities, additional savings may be possible.

Communities Whose MBTA Assessment is Partially Reimbursed

Chart 7

<u>COMMUNITY</u>	<u>REIMBURSEMENT</u>	<u>PERCENT OF ASSESSMENT REIMBURSED¹</u>	<u>PERCENT OF TOTAL COMMUTERS USING PUBLIC TRANSIT²</u>
Arlington	\$497,358	21.0%	20.6%
Ashland	160,433	62.7	1.9
Cohasset	105,049	75.9	8.6
Dover	80,092	75.8	8.5
Duxbury	118,706	53.4	7.0
Everett	401,697	24.6	20.1
Hanover	170,556	80.1	6.2
Hull	159,389	72.8	6.9
Lynnfield	194,657	77.6	2.5
Marshfield	255,757	60.9	4.5
Medfield	146,469	69.5	4.1
Middleton	67,711	70.7	0.9
Millis	94,774	59.9	3.5
North Reading	216,237	86.3	2.5
Norwell	147,191	70.7	5.3
Peabody	793,920	89.2	2.3
Pembroke ³	205,191	69.4	3.8
Rockland	246,166	85.0	2.4
Scituate	263,369	79.6	4.9
Sherborn	59,860	65.0	3.2
Stoneham	386,115	86.7	4.4
Sudbury	223,336	77.7	2.6
Topsfield	88,769	74.6	1.7
Wayland	229,258	81.0	2.7
Wenham	64,580	92.2	3.8
Total	\$5,376,640		

¹ Reimbursement as percent of 1988 Assessment. The assessments for MBTA CY1988 costs are actually assessed against FY1990 local aid for cities and towns.

² Based on 1980 U.S. Census data.

³ Local aid cuts have reduced this community's "additional assistance" below the MBTA reimbursement level.

Neither of these options can be considered in today's fiscally constrained environment without a new revenue stream for cities and towns. In the face of continued local aid cuts, it is unlikely that municipalities can afford to pay more of MBTA costs without devastating cuts to local services. However, with a new regional revenue stream, such as the local option taxes recommended by the Task Force chaired by John Hamill of Shawmut Bank, movement could be made toward the restoration of the 50/50 partnership between the State and cities and towns for the MBTA operating subsidy.

How Much Do Customers Pay?

Beginning in FY1990, the Legislature required that the MBTA fund at least one-third of its operating expenses (not including debt service and certain contracted services such as The RIDE) with own-source revenue. Besides fares, own-source revenue includes parking fees, investment income, advertising income, income from sale of property, and federal operating grants. The MBTA currently meets this threshold. But maintaining a 33 1/3 percent revenue recovery ratio will require periodic fare increases as well as maximizing other sources of revenue.

1989 Fare and Fee Increases

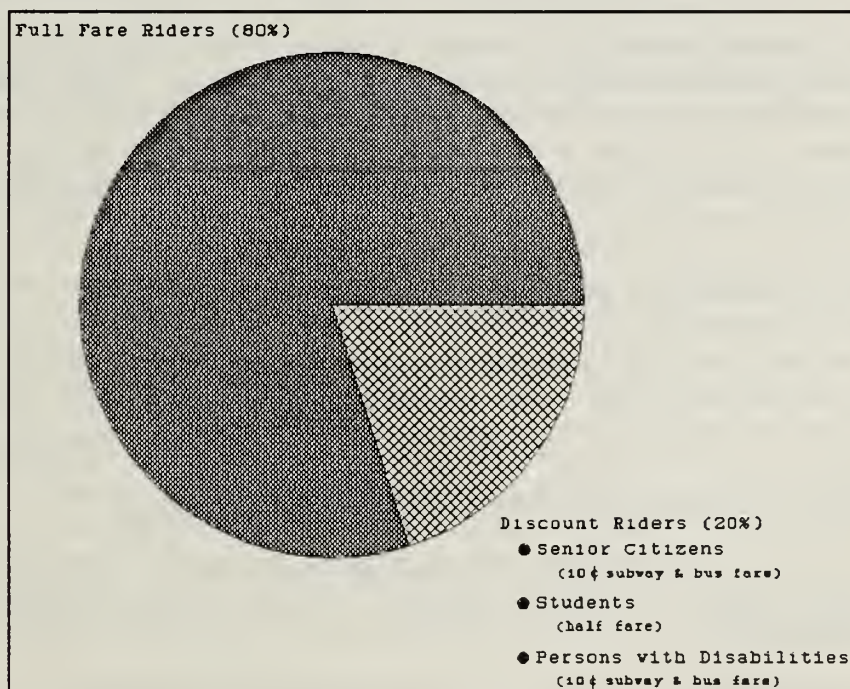
Chart 8

• Commuter rail	17% to 32% increase
• Subways and streetcars	25% increase
• Express buses	25% increase
• Commuter boat	33% increase
• Subway Parking	33% to 100% increase
• Commuter Rail Parking	No fees before

In isolation, MBTA bus (50¢) and subway fares (75¢) appear modest. But because the MBTA does not have a policy of free transfers between the two modes -- unlike most other transit systems -- the price of a two-seat ride on the MBTA (\$1.25) is very close to the industry average. Nevertheless, complying with the 33 1/3 percent fare recovery ratio is also made difficult since one-fifth of all MBTA customers travel on discount fares.

One Out of Five Customers Rides at a Discount

Chart 9



Senior citizens ride buses and subway cars for 10¢, as do persons with disabilities. Students ride at half fare, and senior citizens can ride commuter rail at half fare. These discounts cost the MBTA \$26.3 million annually. As shown above, 20 percent of all MBTA customers take advantage of these discounts. While the discount for persons with disabilities is the policy of the MBTA Board of Directors, the senior citizen discount and the student discount are legislative mandates. If the MBTA received full fare for all riders, the fare recovery ratio would exceed 36 percent.

MBTA Fare Subsidies Through Discounts

Chart 10

(\$ Millions)		
<u>Fare Expenditure</u>	<u>Authorized By</u>	<u>Annual Revenue Loss</u>
Senior Citizen Discount	Legislature	\$17.2
Discount for Persons with Disabilities	MBTA Board of Directors	2.5
Student Discount	Legislature	<u>6.6</u>
Total		\$26.3

Discounts for senior citizens, students and persons with disabilities are good social policy and provide a transportation lifeline for many people who would not otherwise be able to travel. However, some adjustment to these fares for inflation may be advisable over time. Further, this study recommends that these fare subsidies be quantified annually and appropriated in the overall transportation budget. MBTA fare revenues would be held harmless against the subsidies and implicit expenditures would be subject to public review. This approach would balance the need for the MBTA to be fiscally responsible with the desire to provide affordable transportation for all members of society.

How Can the State Share Be Reduced?

It will not be an easy task to limit the State's subsidy to the MBTA while meeting the increased transportation needs of the next decade. There are, however, a number of steps that both the MBTA and the Legislature can take to balance these goals.

The first set of initiatives will reduce MBTA costs. They include:

- As suggested by the MBTA Advisory Board, a review of the MBTA's existing collective bargaining process to produce more predictable outcomes;
- Legislation to cap tort claims against the MBTA;
- Legislation to reform workers' compensation laws;

- Legislation to permit the MBTA to buy power wholesale;
- Legislation to provide MBTA Police with parking enforcement powers; and
- Reduction of MBTA debt service costs by maximizing the use of revenue bonds and joint development efforts.

A second set of actions reduce the State's share of the MBTA subsidy by increasing the share paid by riders and cities and towns receiving MBTA services. They include:

- Periodic, incremental fare and parking fee increases to maintain at least a 33 1/3 percent revenue recovery ratio;
- Maximization of non-fare revenue, especially income from advertising and property;
- Review of the State reimbursement of assessments for so-called "non-served" communities;
- Expansion of the MBTA district to include all communities receiving service; and
- Continued pressure for federal funding involvement in public transportation. If the federal government were still supporting the same share of the MBTA's subsidy that it did in 1982, current federal operating assistance would be \$24 million greater. Further declines can be prevented, and, hopefully, new federal support -- in both operating and capital funds -- can be provided for a genuine need.

In addition to the steps summarized above, this study suggests that several actions be taken both to provide the State more advance warning of the size of its subsidy, and also to relieve the General Fund of a significant portion of the existing subsidy.

Specifically, this study endorses the recommendations of the Task Force chaired by William Crozier of BayBanks that the State prepare a five year capital budget. This will enable the State to examine all of its capital needs and determine well in advance the debt service implications of expanding MBTA service. Moreover, even though the current MBTA funding structure for operating costs provides for early notification of the Commonwealth's costs for the upcoming fiscal year, this process could be formalized to provide more certainty in State budgeting.

Finally, lessons from other transit systems may provide the long-term solution to the negative implications of a growing State share of MBTA costs. Many transit systems receive dedicated tax revenues that fund either the State share, the local share or both. If the MBTA were to be partially funded through a dedicated tax:

- The cities and towns could cover more of the MBTA's budget; and
- Part of the dedicated tax revenues could be used to incrementally forward fund the MBTA.

- Once incremental forward funding is accomplished, the dedicated revenue stream would fund the operating cost of expanded service.

There are a number of options that could be considered to restructure MBTA funding with a new dedicated revenue stream. For example, a regional tax, similar to the local option taxes proposed by the Hamill Commission, could be enacted giving cities and towns the resources to move toward their prior 50 percent share of the MBTA operating subsidy. The Commonwealth then could use the reduction in the State subsidy to forward fund the MBTA. In turn, the MBTA would also have to remain committed to increases in operating costs averaging no more than seven percent since most taxes do not grow faster than this once enacted.

Such options could reverse the trend of a growing State share and provide a new funding structure for the MBTA -- one that potentially would have a long-term useful life to support the Commonwealth's commitment to public transportation.

CHAPTER 1

Introduction

The MBTA is the sixth largest public transportation system in America, moving 660,000 passengers every working day. Over the past decade, the MBTA has both expanded the quantity and improved the quality of the service it provides. And for every new mile of service added, customers have responded. Ridership has increased 23 percent since 1982 -- growing faster than most other major transit systems in America.

Public transportation is more than a way to move people from one place to another. Other important benefits include:

- **Economic Growth.** More than 100,000 new jobs have been created in the Greater Boston area since 1982. Employees commute from ever greater distances to reach their jobs. Public transportation, enabling people to work and shop, supports business and commercial expansion. Fifty-two percent of all trips to Boston's central business district are made via public transportation. The MBTA's ability to handle this volume has facilitated the creation of nearly 40,000 jobs in the central business district since 1982;
- **Reduced Congestion and Air Pollution.** MBTA daily ridership has grown by more than 100,000 since 1982. If these trips were made by automobile, there would be significant increases in traffic delays, air pollution, and highway expenditures. Transportation sources cause 50 to 60 percent of the pollution that produces ozone, and 70 to 80 percent of carbon monoxide emissions. One person riding public transit for a year, instead of driving to work, reduces discharges to the environment by approximately 9.1 pounds of hydrocarbons, 62.5 pounds of carbon monoxide, and 4.9 pounds of nitrogen oxide;
- **Neighborhood Revitalization.** Public transportation increases both economic activity and property values. Extensions of the Red and Orange Lines have produced significant economic benefits for many communities--Quincy, Somerville and Malden--to name three. Previous studies of the economic benefits of public transportation indicate that in areas proximate to rail and subway lines, property values have increased up to ten times;¹ and

¹ See, for example, The Economic and Social Impact of Investments in Public Transit (D.C. Heath and Company, 1973) (properties along subway routes increased as much as ten times their original value) and Metrorail Impacts on Washington Area Land Values (U.S. House of Representatives, Subcommittee on the City, Committee on Banking, Finance, and Urban Affairs, 1981) (minimum of \$2 billion increase in land values attributable to opening of the Metro, including 500 percent increases in value in certain areas).

- **Affordable Transportation.** The MBTA district, like all metropolitan areas, contains large numbers of citizens who cannot--or cannot afford to--drive. Public transit provides an alternative which is about one-tenth as expensive as owning and driving a car into Boston every day.

Students, the elderly, the working poor, and passengers with disabilities all depend upon public transportation. According to the U.S. Census Bureau, Boston area residents who use public transportation to get to work earn an average of 24 percent less than those who drive to work.

Over the next decade, the role of public transportation will become even more critical. Boston cannot absorb any more automobile traffic and there will be no relief until at least 1998, when the new Central Artery and Third Harbor Tunnel open. With increased economic activity in the South Boston Piers area, any excess roadway capacity will soon be overwhelmed. The MBTA must plan to meet this demand. Just to handle the anticipated growth in public transit usage, service will have to expand by 30 percent. The absence of additional roadway capacity in Boston means that development in the central business district is more integrally related to public transit capacity than ever before.

Further, over the past decade, the MBTA's service has not only improved but diversified. More service is provided to less densely populated suburbs and a large investment has been made in restoring the disparate commuter rail services of the early 1980s into a single, integrated commuter rail system. On-call transportation services for persons with disabilities -- The RIDE -- has expanded dramatically from serving only a small portion of Boston in the early 1980's to current service levels in 44 communities.

With this diversification has come added financial commitments. The MBTA operating cost per trip on the basic system -- subway and buses -- is about \$1.68. A commuter rail trip, because it generally covers a longer distance, is more than twice as expensive at \$4.30. And on-call transportation services for persons with disabilities cost more than fifteen times the cost of a ride on the basic system at \$25.92 per trip. Yet it is these more expensive services which have been growing most rapidly.

Important support is provided to economic growth and social policy with these expanded services. Families can find affordable housing in the outlying suburbs and yet commute to jobs in Boston without spending hours on crowded highways and facing large parking fees once they arrive. Persons with disabilities face fewer barriers to independence if their travel needs are met.

The Legislature recognizes these benefits and has supported important expansions and improvements in MBTA services. With other sources of MBTA funding--local assessments and federal operating assistance--severely constrained, the State has assumed an increasing share of the system's cost. In fact, the State now pays more than 75 percent of the MBTA's total subsidy after income is deducted from costs.

Concerned by the increasing amounts of borrowing necessary to finance the MBTA as well as an increasing State subsidy for public transportation, the Legislature has directed the MBTA to prepare this study analyzing its funding sources and financing mechanisms. This study examines existing and alternative means to:

- Finance the operating expenses of the MBTA, including alternative ways to achieve forward funding;
- Apportion costs among the State, municipalities, and riders;
- Fund the local share of the MBTA's costs;
- Fund the State share of the MBTA's costs; and
- Ensure the MBTA's continued fiscal accountability.

In this context, the study presents the costs and benefits of "forward funding", a term used to describe the timing of State appropriations for the MBTA. As directed by the Legislature, the study also examines potential changes in the local assessment formula and the membership of the MBTA district.

There are no simple alternatives to today's MBTA financing and funding practices, which have developed step-by-step with the historical expansion of the system and the Legislature's response to this growth. Yet, increasing costs of a growing MBTA system must not obscure the MBTA's success in improving productivity and efficiency principally through its implementation of the Legislature's 1980 Management Rights Act. Adjusted for inflation, the MBTA spends nine percent less to provide a mile of service today than it did in 1979.

This study presents a financial overview of the MBTA which places in full context the question of the State's spending for the system. In addition, it hopefully dispels a number of misconceptions about the MBTA.

The remainder of the study is organized as follows:

- Chapter 2 examines the services provided by the MBTA, how they are paid for, the history of MBTA financing practices, and the MBTA's record on cost control, productivity, performance, and budgeting;
- Chapter 3 explores the implications and costs of forward funding by changing the current State practice of borrowing working capital for MBTA operating costs;
- Chapter 4 examines the local assessment formula, the size of the MBTA district, and the impact of Proposition 2½ on MBTA funding;
- Chapter 5 assesses the relationship of fares to operating costs and discusses possible future fare increases;
- Chapter 6 surveys the operations and finances of major transit systems elsewhere in the United States and describes steps some of them have taken to deal with public transportation cost pressures; and
- Chapter 7 summarizes the conclusions of the previous chapters and proposes changes to control growth in costs and consider alternative funding mechanisms.

Major changes in service levels or funding sources at the MBTA would have important economic, environmental, political, and financial implications. In addition, given the short time for preparation of this study, the Authority wanted to assure an adequate testing of its conclusions. Accordingly, the Authority has assembled an Advisory Group for this study consisting of prominent business leaders, public officials, environmental advocates, and transportation experts. While members of the Advisory Group did not find themselves in total agreement with the conclusions and recommendations of this study, they reviewed numerous drafts and contributed valuable ideas and insights. The MBTA would like to express its appreciation to them for their time and concern. Those individuals are:

The Honorable Jeffrey A. Bean, Mayor of the City of Fitchburg

William B. Coughlin, Executive Director of the Artery Business Committee

Richard Dimino, Boston Commissioner of Transportation

The Honorable Francis D. Doris, Massachusetts Senate

Andrew Hamilton, Conservation Law Foundation

The Honorable Stephen J. Karol, Massachusetts House of Representatives

Bethany Kendall, President of the Downtown Crossing Association

Anne Larner, Executive Director of the MBTA Advisory Board

The Honorable Theodore Mann, Mayor of the City of Newton

The Honorable David Musante, Jr., Mayor of the City of Northampton

Richard Taylor, President of Taylor Properties

CHAPTER 2

Overview of the MBTA's Services, History and Financial Performance

Introduction

This chapter explains the basic facts about the MBTA that are necessary to understand how the system is financed. Specifically, this chapter:

- Provides a brief overview of MBTA services;
- Outlines the history of the MBTA and its predecessor agencies and describes how current funding and financing mechanisms developed;
- Documents the MBTA's cost control efforts and identifies further steps, including legislation, that could reduce the rate of growth in the State's subsidy to the MBTA;
- Identifies the main funding sources of the MBTA and describes how their relative size has changed over the last decade;
- Reviews recent MBTA financial performance, focusing on gains in efficiency and productivity as well as on the specific types of expenditures which have experienced significant growth;
- Describes the MBTA budget process, including the roles played by the Advisory Board and the Legislature; and
- Projects the MBTA budget out until 1995, and quantifies the increasing need for State subsidies unless changes can be made in how the MBTA is funded.

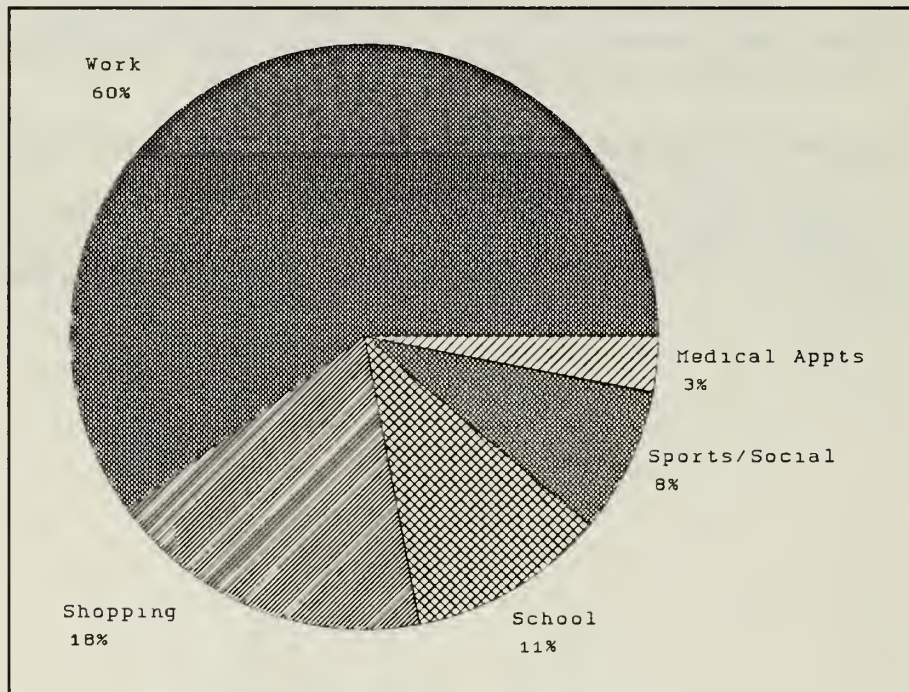
Overview of MBTA Services

The MBTA is a critical part of the region's overall economy. The MBTA carries more than 660,000 passengers every working day. In fact, 52 percent of all trips to Boston's central business district are made using public transportation. The MBTA also plays an important role in the daily lives of thousands of citizens who use the system to shop, attend school, keep medical appointments, and participate in sporting and social events, as Chart 2-1 shows.

There are many ways to measure the importance and quality of MBTA services. The most fundamental measure, ridership, indicates the increasing role of the system in serving the region's basic daily transportation needs. Average weekday ridership is up 23 percent since 1982, a gain of more than 100,000 riders per day. This is especially significant considering the more modest six percent increase in ridership experienced on average by other large transit systems throughout the country. Another important measure is customer satisfaction. Based on the MBTA's survey data, customer satisfaction now stands at 92 percent, the highest level ever, and considerably higher than the rating of 50 percent in 1981, when the MBTA first began its customer satisfaction surveys.

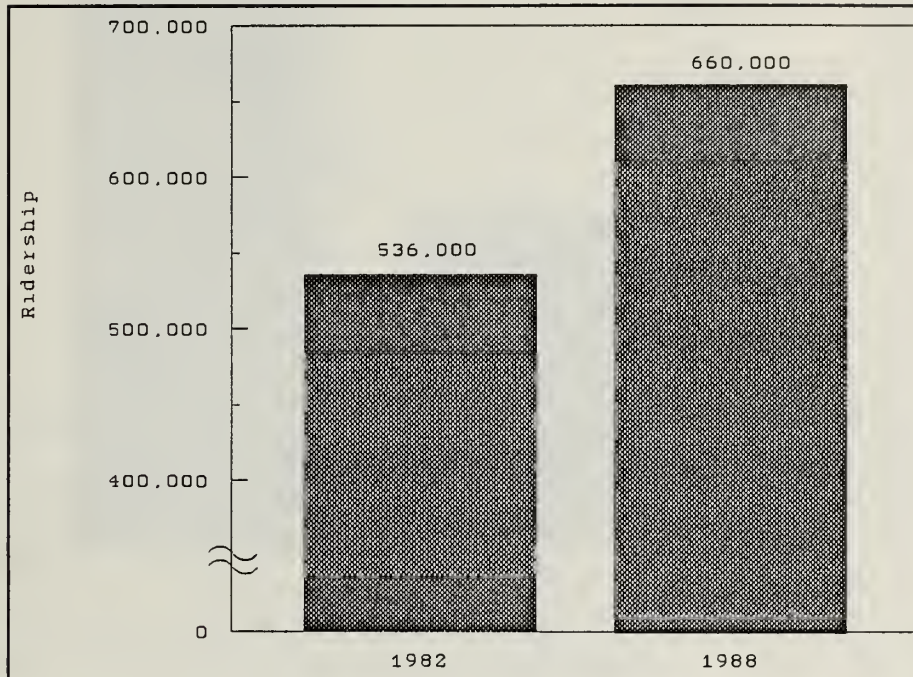
Why People Ride the MBTA

Chart 2-1



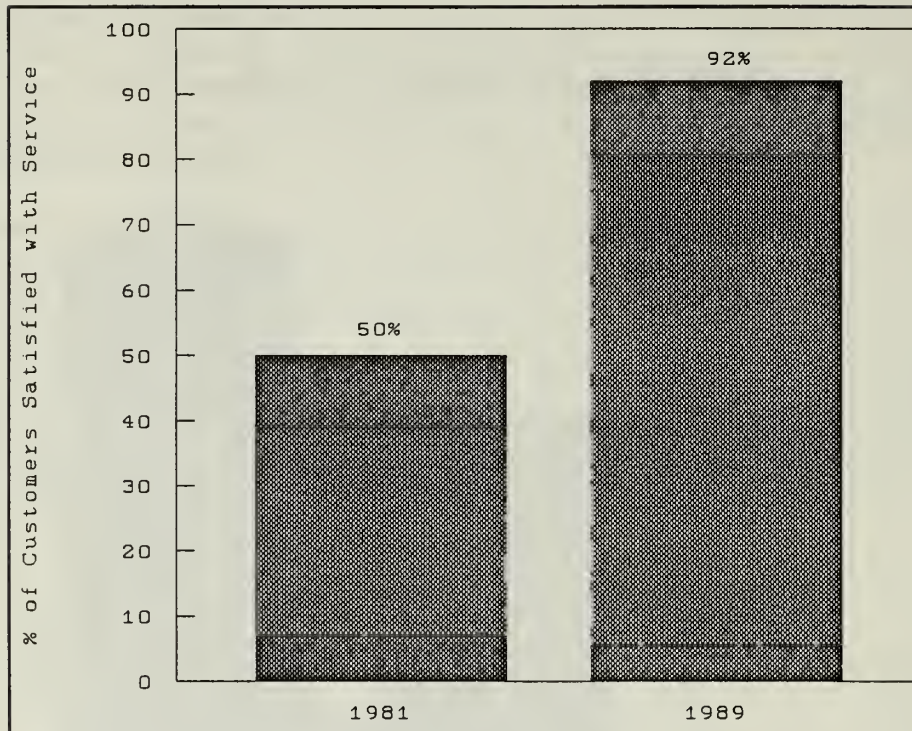
MBTA Ridership Is Up 23 Percent Since 1982

Chart 2-2



Customer Satisfaction is at an All Time High

Chart 2-3



Much of the increase in both ridership and customer satisfaction has resulted from the MBTA's substantial capital improvement program. The Authority has invested over \$2.5 billion since 1981 to expand and modernize the transit system. More than half of this amount has been federal dollars. Major capital improvements over the last two decades include:

- Building a new Orange Line in the Southwest Corridor and extending it to Malden;
- Extending the Red Line to Quincy and Braintree, and to Alewife station in Cambridge;
- Purchasing 158 subway cars and 380 lift-equipped buses;
- Constructing parking spaces to accommodate 5,600 automobiles;
- Modernizing 24 subway stations so they can handle 50 percent longer trains and accommodate passengers with disabilities; and
- Upgrading 171 miles of rapid transit track and 281 miles of commuter rail track.

Chart 2-4 below provides an overview of the scale of the MBTA system.

MBTA Vital Statistics

Chart 2-4

Average Weekday Ridership	660,000
Population of Service Area	2,608,638
Total Vehicles	2,005
Routes	177
FY1990 Miles of Service	48,000,000
Total Scheduled Weekday Trips	13,000
FY1990 Operating Budget	\$629.6 million
FY1990 Capital Spending (State)	\$225.0 million
FTEs	6,700
Unions	26
Bus Stops	10,000

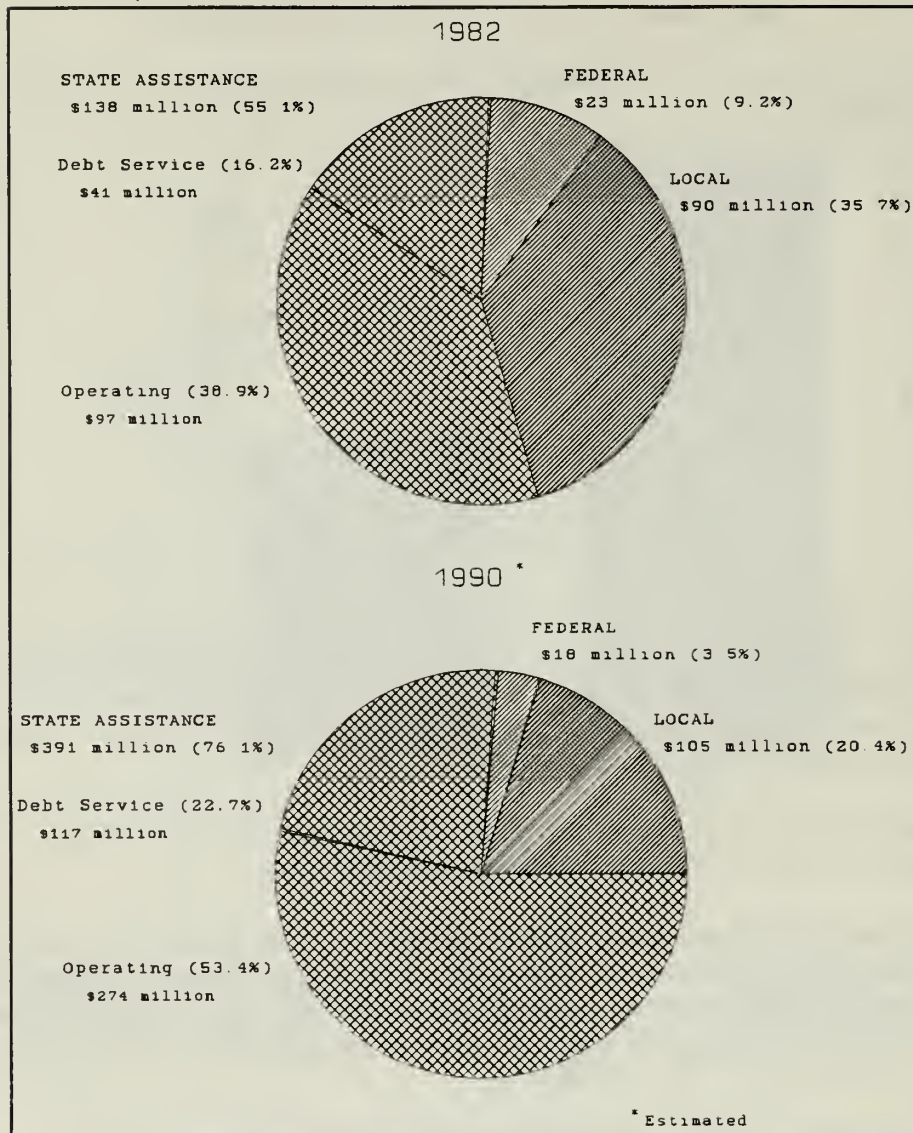
As MBTA services expanded in the 1980's, the size of the operating budget also increased. Total operating expenses grew from \$357.5 million in calendar year 1982 to \$659.3 million in calendar year 1990.¹ A large portion of this growth has been borne by the Commonwealth, whose share of the MBTA subsidy after revenue rose from 55 percent in 1982 to 76 percent in 1990.

This increasing dependence on State funding has resulted in large part from constraints on the MBTA's other principal funding sources.

- **Fares and Other Income.** Despite fare increases, fares and other income have decreased as a proportion of the budget. Fare discount policies for students, elderly, and the disabled have contributed to the reduction in the share of MBTA costs covered by fare revenues. One fifth of the MBTA's total customers ride at a discount.
- **Local Assessments.** Since 1981, local assessments could grow no faster than the two and one-half percent per year limit set by State law. As a result, cities and towns now pay 20 percent of the subsidy for MBTA costs after revenue -- down from 36 percent prior to Proposition 2½.

¹This study will measure most financial changes from the calendar year 1982 to 1990 period. All 1990 numbers are estimates.

Percentage of MBTA Subsidy by Source: 1982 vs. 1990
Chart 2-5



- **Federal Operating Subsidies.** Federal operating subsidies have declined absolutely and as a percentage of the MBTA subsidy since 1982. In that year, the MBTA received federal operating subsidies of approximately \$23.2 million covering nine percent of costs after income. For 1990, it is estimated that federal operating subsidies will amount to only \$17.9 million, or approximately four percent of costs after income. If the federal share of the MBTA's budget had remained at its 1982 level, the MBTA would receive an additional \$24 million in 1990.

Perhaps more importantly, the decline in federal support for capital improvements has placed an increasing burden on State-financed bonds and associated debt service. If the federal share of MBTA capital spending had continued at the 80 percent level of the mid-1980s, total capital spending from State bonds would be \$600 million less. This would mean an associated \$50 to \$55 million reduction in debt service of which 90 percent is funded by the Commonwealth.

Based on current projections of MBTA service levels, operating costs and planned capital improvements and service extensions, the State's share of the MBTA's subsidy is projected to rise to 84 percent by 1995.

Source of the State Share

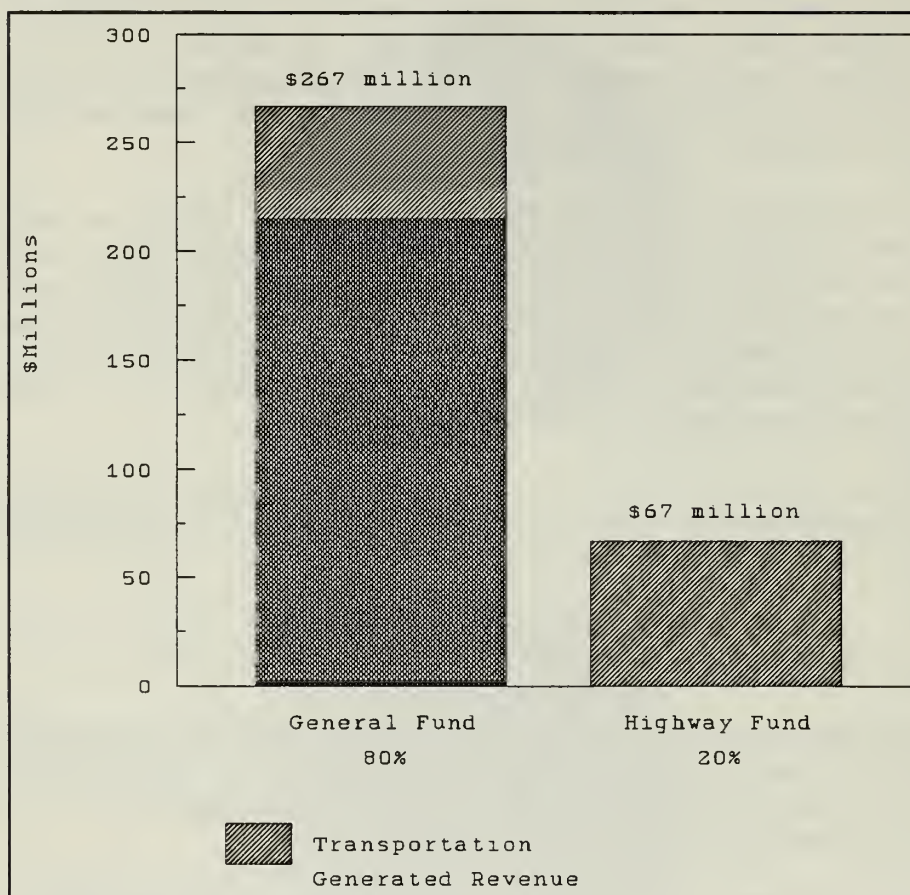
All MBTA State subsidy line items have traditionally been funded through both the General Fund and the Highway Fund. By language in the appropriation bill, this allocation for the MBTA subsidy has historically been funded 80 percent from the General Fund and 20 percent from the Highway Fund.

Because the General Fund receives 15 percent of gasoline excise receipts for transit purposes, approximately 35 percent of State support for the MBTA comes from transportation sources.

The remainder of the State subsidy for the MBTA is funded by other receipts and general tax revenue which are deposited to the General Fund.

State Sources for FY1990 MBTA Funding

Chart 2-6



History of the MBTA and its Predecessor Agencies

One hundred years ago, Boston and its surrounding communities faced a transportation crisis. After 40 years of central city growth and suburbanization, Boston's narrow, twisted streets could no longer handle the City's own traffic, much less the many of commuters that entered the city every day. Horse-drawn wagons, pushcarts, pedestrians and trolleys competed for what little street space was available. The trip from Copley Square to Scollay Square could easily take an hour, even in mid-day.

The need for an adequate public transportation system to support a healthy economy was evident even then, and Bostonians rose to the challenge. In 1894, the Boston Transit System was created to oversee the construction of the first subway system in America. A referendum approved \$4.3 million for construction costs, a staggering sum at the time.

The new subway opened in 1897. While the capital costs were publicly funded, operating responsibility was leased to a private firm, the West End Street Railway Company.

Over the years, several private firms won the right to operate the public transportation system, which was intended to be a profit making enterprise. In the early years of this century, inflation was virtually non-existent and it was possible for a private firm to cover operating expenses while keeping fares stable. However, inflation and other social changes placed significant upward pressure on wages. In 1912, carmen successfully unionized and, over time, bargained for higher wages and improved benefits such as a pension plan. The sharp burst in inflation caused by World War I led to additional wage increases.

Aside from higher labor costs, private operators also began to feel a revenue squeeze. Steadily increasing automobile use cut into ridership, and the system began losing money. In 1918, the Legislature created a Board of Trustees appointed by the Governor to operate and manage the privately-held system, and working capital was advanced by the Commonwealth. The legislation also required that the cities and towns that received the service reimburse the State for any capital it advanced. To determine which municipalities owed how much, a system of calculating and assessing charges after the fact was begun.

Continued cost pressures and increasing competition from the automobile resulted in chronic and increasingly large deficits, and in 1948, the Legislature created the Metropolitan Transit Authority (MTA) to replace the last private operator, the Boston Elevated Company. The MTA operated in 14 cities and towns, and those municipalities were required to help defray the cost of the system.

MTA and MBTA Boundaries

Chart 2-7



When the MTA was established, it was clear from the experience of the Boston Elevated that the fare revenues of the new system would not be entirely sufficient to meet operating costs. The Legislature responded to this problem by continuing the practice of assessing the subsidy required for each year's operations to the cities and towns receiving service. Important financial elements of the 1948 legislation included the following:

- The MTA was required to establish a \$2 million reserve fund to pay for annual operating deficits;
- In the event that the reserve fund was insufficient to cover operating expenses (as quickly happened in that time of declining ridership), the State was to advance the difference to the MTA;
- Any advances paid by the State were in turn to be assessed upon the 14 cities and towns; and
- The State Treasurer was authorized to borrow funds in anticipation of these assessments, while the MTA was authorized to borrow on a short-term basis to meet its daily cash needs.

So, as early as 1918, the State's practice of advancing working capital until such time as the cost of service could be assessed on cities and towns was established. That practice was continued in the 1948 legislation, when public transportation was taken out of the private sector altogether.

By the early 1960s, the region's economy had grown substantially, increasing the need for public transportation well beyond the borders of the MTA's 14 municipalities. There was also growing pressure to apportion the system's annual cost of service more fairly. The Legislature responded by creating the MBTA in 1964.

The creation of the MBTA brought one minor innovation but left other system financing features unchanged. Previously, public funds had supported capital improvements through lump-sum grants. The innovation was the State's commitment to alleviating the burden of the cost of service on the cities and towns by contributing through "contract assistance" to interest and principal payments on the MBTA's capital financing. But there was no change in the general pattern of recouping most of the cost of service through assessments on the cities and towns. Because State assistance and local assessments did not become available until after the first year of operation in 1964, the State necessarily and from the creation of the MBTA continued the historical practice of State working capital advances to the MBTA with subsequent assessments on the cities and towns to reimburse the State.

Over the years, the MBTA's cost of service continued to grow, and cities' and towns' assessment payments placed an increasing burden on local property taxes. From 1966 to 1971, MBTA assessments to its communities more than doubled. This growth was fueled principally by increases in labor costs because of an automatic cost of living provision in the MBTA labor contract. MBTA wages grew substantially faster than the wages of either municipal or State employees. The municipalities argued that a system where the State was in control but all the operating cost was assessed on the municipalities was structurally unsound.

In its November 18, 1969 report, the MBTA Advisory Board appealed for more State financial assistance "to support vital mass transit service within Eastern Massachusetts in view of the inability for municipal property tax to bear the prospective burden of such services."² In response, Governor Francis Sargent assembled a task force to explore the funding, policies and management structure of the MBTA. The task force ultimately recommended establishment of a State subsidy fund for public transportation. It also concluded that union work rules and entrenched politics, as well as the growth in MBTA services, were the primary contributing factors in the growth of MBTA costs. Finally, the study sounded a warning about the MBTA's failure to routinely maintain or modernize its rolling stock.³

Before the Legislature could address the study's recommendations, the MBTA nearly ceased operations due to a lack of funds. In July 1972, Governor Sargent signed temporary, emergency legislation to override the MBTA Advisory Board's refusal to fund

² Financing MBTA Operating Costs; Alternatives for the Future, Volume II (MBTA Advisory Board, 1989), p. 4.

³Id.

a supplementary budget. At the same time, he urged the Legislature to relieve the local property tax burden by voting to have the Commonwealth absorb as much as one-third of the net cost of service.

Financial Milestones in Public Transportation: 1897 - 1990

Chart 2-8

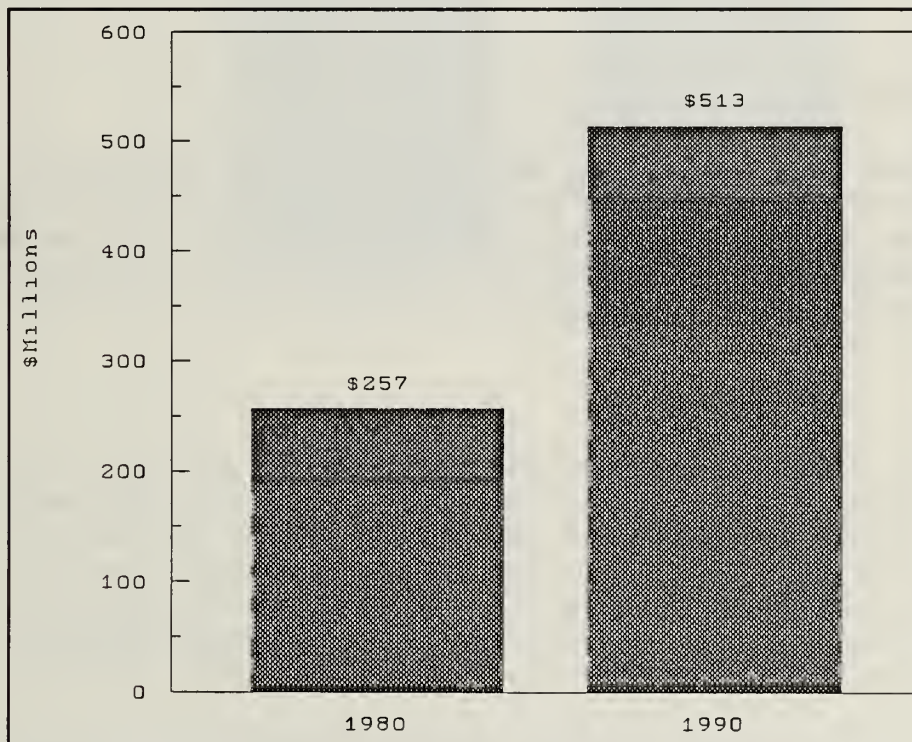
- | | |
|------|---|
| 1897 | Subway opens; operations leased to private firm |
| 1912 | Carmen's union formed |
| 1918 | Chapter 159 provides for public operating subsidy |
| 1948 | Public transportation unprofitable for private firms; MTA created |
| 1964 | MBTA created to apportion rising cost of service more fairly and to expand public transportation beyond the inner 14 cities and towns |
| | State first begins to pay a portion of the debt service for capital improvements |
| 1964 | First federal subsidies for capital improvements |
| 1972 | Governor Sargent overrides MBTA Advisory Board refusal to approve supplemental budget |
| 1973 | Legislature reorganizes MBTA management |
| 1974 | First federal operating subsidies |
| 1974 | State assumes 50 percent of net cost of service |
| 1978 | Chapter 405 of the Acts of 1978 eliminates automatic cost of living adjustments |
| 1980 | Management Rights Legislation (Chapter 581) passed |
| | Proposition 2½ passed, limiting the annual growth in the total MBTA local assessment to 4 percent |
| 1981 | Chapter 782 passed, limiting annual growth in the total MBTA local assessment to 2½ percent |
| 1990 | Legislature directs MBTA to explore ways to reduce the ongoing burden on the State budget |

In 1973, the Legislature increased the authority and accountability of the MBTA by combining the positions of Chairman and Chief Executive Officer and making the terms of the MBTA Board of Directors coterminous with the Governor. The following year, the Legislature voted to have the Commonwealth assume 50 percent of the net cost of service, thereby temporarily averting the crisis.

By the end of the 1970s, rising costs and growing resistance to increased local property taxes once more threatened public transportation. Significant cost control efforts began in 1978, with the elimination of automatic cost of living adjustments. The Legislature then limited growth in the MBTA's FY1980 budget to 104 percent of its FY1979 budget. This cap culminated in a one-day shutdown in December 1980 due to a lack of funds. In response to the budget shortfall and the transportation crisis produced by this shutdown, the Legislature enacted Chapter 581 of the Acts of 1980. Under Chapter 581, the Commonwealth's Secretary of Transportation was made Chairman of the MBTA Board of Directors. Moreover, the Legislature and the Secretary of Transportation both received greater oversight of MBTA finances. Chapter 581 also affirmed MBTA management rights covering productivity, staffing and service levels. The management rights provisions of Chapter 581 have assisted the MBTA in instituting numerous measures over the intervening years to control costs and increase productivity. These are discussed in detail later in this chapter.

MBTA Cost of Service In Excess of Income: 1980 vs. 1990

Chart 2-9



Chapter 581 also implemented an annual limit in the growth of MBTA assessments on local communities by applying to the MBTA the limitation on local property tax growth imposed by the voter initiative (commonly known as Proposition 2½) and enacted as Chapter 580 of the Acts of 1980. Shortly thereafter, Chapter 782 of the Acts of 1981 reduced permissible annual increases in municipal assessments from four percent to two and one-half percent. These limitations are discussed further in Chapter 5. The continued effect of Chapters 580, 581 and 782 was to limit the annual growth in local community assessments first to four percent and then to two and one-half percent,

thereby compelling the Commonwealth to assume an ever increasing percentage of the net cost of service for each subsequent year.

In sum, in response to the events of 1980, the Legislature gave MBTA management increased authority to control its operating costs, capped the growth in the Authority's aggregate assessments to district members at two and one-half percent per year, and effectively committed the Commonwealth to assume an increasing percentage of the Authority's net cost of service in future years.

Recent Authority Financial Performance: 1982 to Present

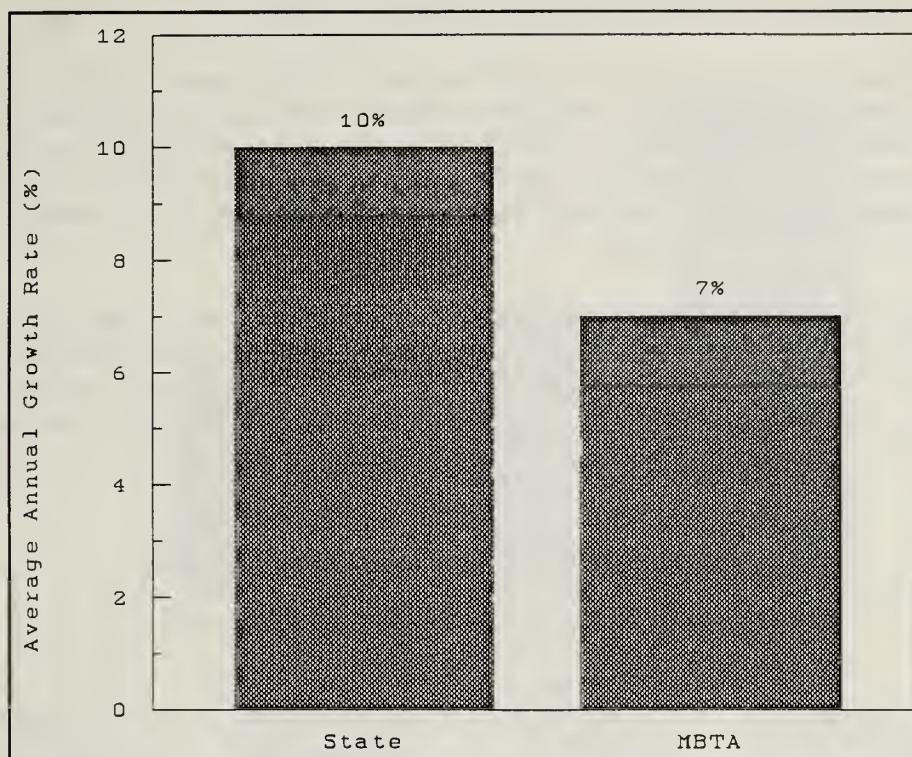
For reasons described above, the overall cost of operating the MBTA has grown in recent years much more slowly than the large rates of increase in the share of those costs borne by the State budget. This restricted growth is significant, especially in view of the increasingly important service benefits the system has supplied. This is demonstrated by the line item-by-line item review of the Authority's Net Cost of Service Statements from 1982 to the present.

Overall Expenses

Growth in the MBTA's budget has been modest over the past decade, particularly when measured against the rest of the State government. Compared on the same fiscal year basis, 1982 to 1989, the MBTA's total expenses grew at an average annual rate of seven percent, significantly less than the ten percent annual rate of growth in overall State spending over the same period.

**State Budget Growth vs. MBTA Budget Growth:
FY1982 Through FY1989**

Chart 2-10



Adjusted for inflation, MBTA operating expenses rose on average only 1.9 percent per year from 1982 to 1990, a modest figure given the substantial system expansions and growth in revenue miles as well as ridership that occurred in the same period. Indeed, the per mile costs of providing MBTA service, adjusted for inflation, have actually decreased during the 1982 to 1990 period. This decrease was accomplished by improving labor productivity and by making capital investments in technology which increased operating efficiency to offset wage rates which rose at a rate greater than inflation.

MBTA costs can be divided into three major categories: transportation costs, business expenses and fixed charges.

- Transportation costs are those costs directly associated with moving 660,000 people every weekday. They include wages, fuel and power, and the materials and services needed to keep stations and vehicles in good condition. These costs now represent 60 percent of the MBTA's total budget and have been growing at an average annual rate of 6.4 percent since 1982.

- Business expenses are those costs faced by all large employers, such as health insurance, pensions, workers' compensation and the cost of borrowing working capital. These costs are more difficult to control and have been growing at an average annual rate of eight percent since 1982. They now represent 19 percent of the total budget.
- Fixed charges represent the debt service on MBTA bonds. This is the fastest growing category, with average annual increases of 14 percent since 1982. This rapid rate of growth is a function of the recognized need to modernize and expand the transit system at a time when federal capital assistance has been declining. Fixed charges now comprise 21 percent of the MBTA's total budget.

Although the overall growth of the MBTA budget has been limited, within that budget the MBTA has its own "budget busters": tort claims, debt service, health insurance and pensions. With the exception of debt service -- which must grow if the system is to continue to grow -- the MBTA has targeted these areas specifically for cost control, as discussed on pages 29 and 30.

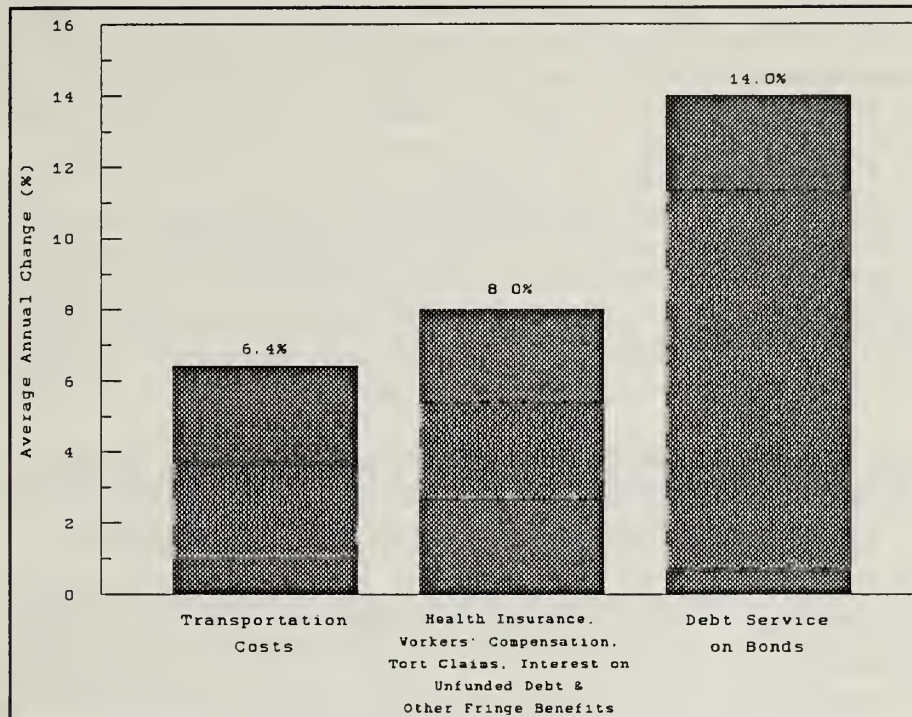
MBTA Has Its Own Internal Budget Busters

Chart 2-11

<u>INTERNAL BUDGET BUSTERS</u>	<u>ANNUAL AVERAGE PERCENT INCREASE*</u>	<u>WHO PAYS FOR A STATE AGENCY</u>	<u>WHO PAYS FOR THE T</u>
Tort Claims**	24.5%	A&F	T
Debt Service	12.8%	A&F	T
Health Insurance	11.4%	A&F	T
Pensions	8.3%	Treasurer's Office	T
<p>* T average annual increase from 1982 - 1989.</p> <p>** The number of tort claims made against the MBTA has declined, however, the average cost per settlement or judgment has increased due to higher court awards.</p>			

Average Annual Increase of Components of MBTA Budget: 1982 - 1990

Chart 2-12



Operating Expenses

Overview. For 1990, the MBTA's operating expenses (exclusive of fixed charges) totaled \$521.4 million, representing 79.1 percent of the Authority's total budget (the balance being fixed charges, or debt service on Authority and MTA bonds issued to finance transit system capital programs).

Major Cost Categories - Wages. Although wages are the major component of total operating expenses, when adjusted for inflation and growth in service delivery due to system expansion, they remained essentially constant in the 1980s. Wages, which represent approximately 45.3 percent of 1990 operating expenses, grew at an average annual rate of 7.1 percent. Adjusted for inflation, wages grew only 2.2 percent per year on average. Adjusted for both inflation and service system growth, wages actually fell, as evidenced by a reduction in real wages per revenue mile from \$3.70 in 1982 to \$3.48 in 1989. The decline is even steeper -- 22 percent -- compared to the \$4.42 cost in 1979, the year before the management rights statute was enacted.

This reduction in real wages per revenue mile occurred despite an increase in real wages for most MBTA employees. Adjusted for inflation, the hourly wage for a bus driver increased five percent between 1982 and 1990. The decline in total real wages per

revenue mile is due to improved productivity and not to declining real wages among MBTA employees.

However, labor costs remain the single largest item in the budget, and must be carefully controlled if MBTA budget growth is to remain modest. This is clearly shown by the MBTA's most recent binding arbitration experience. MBTA employees were awarded a 20 percent salary increase over three years, making them the highest paid public transit operators in the nation. While this is not altogether unjustified given the high cost of living in the Boston region, the award was a major setback to the MBTA's budget. The total three year cost was \$60 million, of which \$30 million was not budgeted.

The major cause of the large unbudgeted impact of the award was its retroactive nature. To avoid passing this increase on to the State in the form of a higher operating subsidy, the MBTA increased parking fees at rapid transit lots, introduced parking fees at previously free commuter rail lots, increased commuter boat fares, and reduced service on 10 bus routes. This range of fare and fee increases plus service cuts illustrates how vulnerable the MBTA is to retroactive binding arbitration.

Major Cost Categories - Other. Several other major components of MBTA operating costs -- fringe benefits, materials and supplies, costs for injuries and damages, and service subsidies for persons with disabilities -- grew at rates in excess of inflation.

Fringe benefits, which account for approximately \$99.1 million of MBTA operating expenses in 1990, grew on average 10.2 percent annually between 1982 and 1990. Within the fringe benefit category, most of this growth is attributable to escalating costs for workers' compensation (15.1 percent average annual growth) and group health insurance (11 percent average annual growth), items which are largely beyond the Authority's control and which reflect a trend that has dramatically affected nearly all private and public employers in the Commonwealth. The MBTA is moving to contain these overhead costs, with cost control efforts targeted at health insurance and workers' compensation. These efforts are described later in this chapter. The Legislature is also concerned about the rising cost of health care, and has enacted legislation requiring that MBTA employees pay 10 percent of the cost of their health care.

Costs for materials and supplies grew at a steady rate between 1982 and 1990, increasing at an average of 10.5 percent annually. These costs are attributable in part directly to MBTA service expansions. They also reflect new commitments to routine maintenance and repair. Maintenance programs which prevent deterioration in the reliability and efficiency of the Authority's capital assets, especially rights of way, subway cars, and buses, constitute prudent fiscal management of these valuable public assets. The recent subway accident in Philadelphia is a tragic reminder of the importance of preventive maintenance.

Costs for injuries and damages, accounting for \$13.3 million of Authority expenses in 1989, grew at a 24.5 percent average annual rate from 1982 to 1990. This growth has resulted primarily from the rapidly increasing size of judgments, not an increase in the number of injuries. To better control this expense item, the Authority has proposed legislation (H. 1168) to limit its liability for personal injury and other tort claims at \$100,000, a limit which already applies to most tort claims against the Commonwealth itself and its cities and towns.

The MBTA's operating expenses contain two major service subsidy items -- both of which have been the source of growing costs in the last decade:

- The commuter rail subsidy funds the net cost of rail service operated by Amtrak. Commuter rail is the fastest growing service provided by the MBTA with ridership doubling since 1982. However, the subsidy has grown very little, rising from \$45.3 million in 1982 to \$53.5 million in 1990, an average annual growth of 2.6 percent. Adjusted for inflation, the subsidy has declined substantially.

The subsidy covers operating costs and does not reflect the substantial capital investment that has been made in the commuter rail system since 1982. And although operating costs have been controlled, at \$4.30 per trip, it costs more than twice as much to provide a ride on commuter rail than it does on the basic MBTA subway and bus system. A large part of the reason for the additional cost per trip is the fact that commuter rail trips cover longer distances.

- The local services subsidy funds subsidized bus services, the commuter boat service, and The RIDE, the paratransit service for persons with disabilities.

The commuter boat service, while a comparatively small portion of overall expenses, is a relatively more expensive form of travel with a cost per trip of \$7.62. Initiated in 1982, this service adds to the scope of services provided by the MBTA. In 1990, it is expected to add \$2.6 million in expenses to the overall budget.

By far the largest and the fastest growing component of the local service subsidy is The RIDE. Begun in the late 1970's, The RIDE provides on-call transportation service for persons with disabilities who are unable to use other commuter services. Over the past decade, this service has been expanded from limited availability in parts of Boston to serve 44 communities.

At \$8.6 million in 1990, the subsidy for The RIDE has grown on average 30.2 percent annually since 1982. At \$25.92 per trip, a RIDE trip costs more than fifteen times the cost of a ride on the basic MBTA system. This high trip cost combined with the rapid geographical expansion of the service in the past decade results in the dramatic growth in costs in this area.

Subsidized bus services are provided by private contractors, but partially subsidized by the MBTA. These services operate in the less densely populated suburbs, primarily with routes that either begin or end outside of the MBTA District. In FY1991, these services will provide over 2.5 million trips. The subsidy per trip is approximately 90¢, and the MBTA believes that contracting with private carriers is a cost-effective way to provide this service.

The expansion of these subsidized services has both encouraged economic growth and provided important support to social policy. Extensions of commuter rail service provide families with the means to find housing they can afford in outer suburbs and still travel economically to a job in Boston. For persons with disabilities a barrier to independence is removed by providing for their travel needs.

While socially and economically necessary, these are comparatively expensive services to provide. As they continue to expand in the 1990s to meet the needs of economic growth and to continue the transportation lifeline for persons with disabilities, their relative share of the MBTA budget will increase.

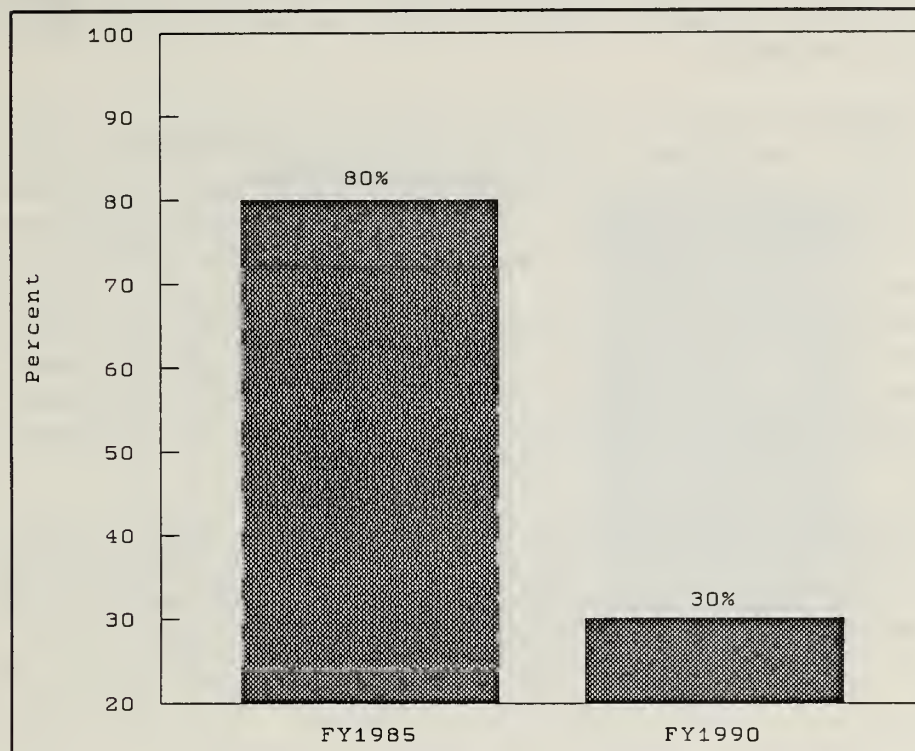
Fixed Charges

Fixed charges, consisting of debt service on MTA and MBTA bonds issued to finance the Authority's share of its capital program, have grown from \$48.8 million in 1982 to \$137.8 million in 1990, an average annual increase of 14 percent. Fixed charges represent 20.9 percent of the Authority's 1990 operating expenses, compared to 13.6 percent of the Authority's budget in 1982.

There is a very simple explanation for the growth in fixed charges: the Legislature's support for transportation bond issues has enabled the Authority to engage in a major and necessary rebuilding and modernizing program. These investments have resulted in reduced operating costs as larger vehicles and expanded train lengths have increased capacity while controlling associated labor costs. However, because of declining federal support, an increasingly large percentage of capital costs has been assumed by the State. The MBTA has responded to this declining federal capital support by using, where feasible, innovative financing methods, such as joint development and public/private partnerships. Today, for example, these methods are being actively explored in the context of the South Boston Piers project. But the need for sustained investment in the system will continue to require growing State subsidies, unless federal policy and resources for public transportation can be substantially reinvigorated.

**Percentage of MBTA Capital Program
Funded by the Federal Government: FY1985 vs. FY1990**

Chart 2-13



Improvements resulting from capital investment are the foundation for the system's dramatic ridership gains. Increased customer satisfaction is also a direct outgrowth of capital investment in the system. This investment, which has been reviewed and endorsed by the Legislature through the enactment of Transportation Bond authorizations and adjustments to the MBTA's statutory debt limit, has purchased a vastly improved transit system. It has also spurred the region's economic growth, lessened traffic congestion, improved air quality, and avoided highway program costs which, as an alternative, would have resulted in far less efficient expenditures of capital funds. The MBTA benefits now from the transportation infrastructure assets yielded by this investment, particularly since a significant portion of the cost was paid by the federal government with funds which are no longer available. Other states, having failed to make public transportation investments at a time when public officials in Massachusetts appreciated the wisdom of doing so, are now in a far less favorable position as they seek to provide basic transportation services for their citizens.

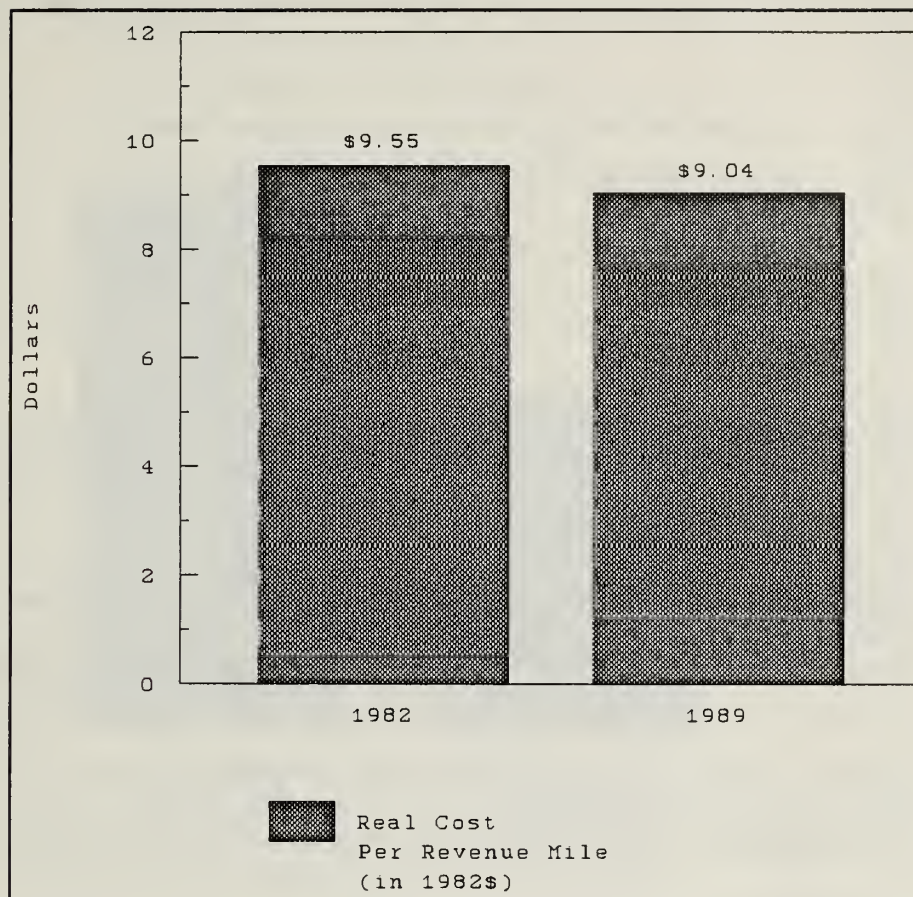
Cost Control Achievements: 1982 to Present

In sum, the MBTA's growth in operating expenses has been modest, especially in light of the 27 percent increase in service and major improvements in the quality of that service. As seen above:

- Adjusted for inflation, it now costs the MBTA five percent less to provide a mile of service than it did in 1982. Indeed, the real cost of a mile of service has dropped nine percent since 1979, the year before management rights legislation was passed. Very few government agencies have been able to reduce the real cost of their basic unit of service. The MBTA has achieved this despite having to absorb the cost of a major capital rebuilding program and the rapidly increasing costs of fringe benefits such as health care and workers' compensation. (State agencies are generally not held accountable for these costs; they are instead paid out of centralized accounts at the State Treasurer's Office or the Executive Office of Administration and Finance); and
- MBTA annual budget growth has been significantly below the State's annual budget growth. During this period, the MBTA budget has grown at an average annual rate of seven percent, substantially less than the 10 percent average annual growth rate for the State as a whole.

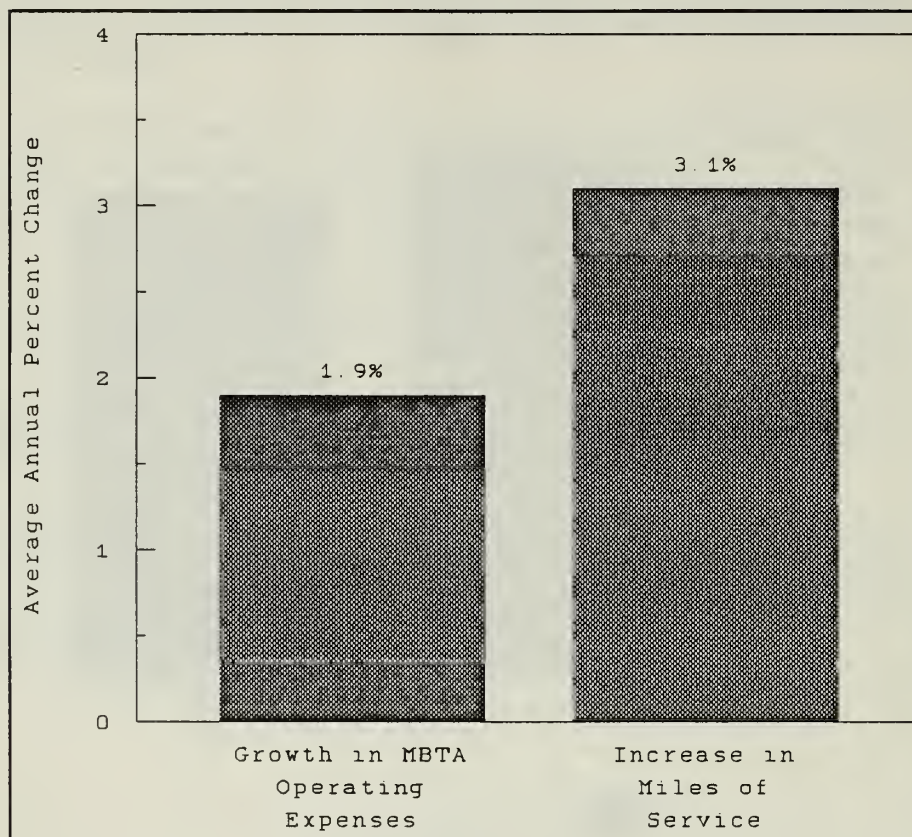
Cost of a Mile of Service in Real Dollars is Down

Chart 2-14



Real Growth in MBTA Budget vs. Growth in Revenue Miles: 1982 - 1990

Chart 2-15



Management Rights

The MBTA's labor costs are above the industry average. Managing labor costs has been a significant focus of the MBTA's efforts in recent years. The first significant step to contain these costs was Chapter 405 of the Acts of 1978, which eliminated automatic cost of living adjustments. However, the single most important factor in containing the growth of operating expenses has been the MBTA's implementation of the management rights legislation enacted by the Legislature in 1980. The management rights statute has enabled the MBTA to make efficient use of part-time workers, to contract out for services (such as station cleaning) where private firms could provide those services more cheaply, and to strengthen control of overtime, promotions and other critical elements of labor costs. In the first five and one-half years after enactment of management rights, the MBTA has saved \$118 million, as shown in Chart 2-16.⁵

⁵There is pending legislation (Senate 1104 and 1152) that would restrict certain management rights provisions. Should such a bill pass, MBTA management would lose its single most important cost control tool.

MBTA Savings From Management Rights Legislation

Chart 2-16

- \$59 million through the elimination of automatic cost of living adjustments in labor contracts
- \$29 million through the use of part-time employees
- \$12 million through the use of outside cleaning services under contract
- \$6 million through the elimination of pension fund contributions based on overtime earnings
- \$12 million through other employee reclassifications, assignments, and work practices

The Authority estimates savings through management rights initiatives from 1981 through fiscal year 1990 at over \$15 million per year. Moreover, the Authority has several on-going cost control initiatives. The most important of such efforts are:

- **Staff Reduction.** Administrative budgets have been cut back and the MBTA has begun to reduce administrative staff. By the end of FY1991, the MBTA expects to reduce administrative staff by 15 percent below originally projected FY1990 levels. In total, the MBTA expects to employ 100 fewer personnel than it did in 1988;
- **Overtime.** The Authority capped overtime usage in FY1990 at a level 20 percent below FY1988 and five percent below FY1989. Through the first eight months of this fiscal year, total overtime hours are 25 percent below the prior year and nearly 40 percent below FY1988;
- **Scheduling Efficiencies.** The Authority will implement additional management rights provisions in FY1990 that will result in a more efficient use of labor in providing transportation services;
- **Pension Savings.** Last year the Authority negotiated a new pension agreement with its unions that saved \$1.5 million;
- **Health Insurance.** The MBTA is auditing previous health insurance bills to identify those which should not have been paid and to recapture the money. While the MBTA's health insurance costs are expected to grow by 10 percent this year, this is significantly below the 15 to 20 percent growth rate expected by the industry;
- **Workers' Compensation.** The MBTA is proceeding with greater use of "light-duty" positions for injured employees, a proposed agreement with the Department of Revenue to match workers' compensation claims against their wage reporting files, and legislation that will prevent employees from simultaneously collecting both workers' compensation and

a pension. While workers' compensation costs will continue to increase, the rate of growth will slow; and

- **Travel, Subscriptions, Telephone, Insurance.** The MBTA has placed greater controls on out-of-state travel, subscriptions, outside printing, long distance telephone calls, and excess public liability insurance.

Finally, the MBTA has supported legislation that would further reduce costs:

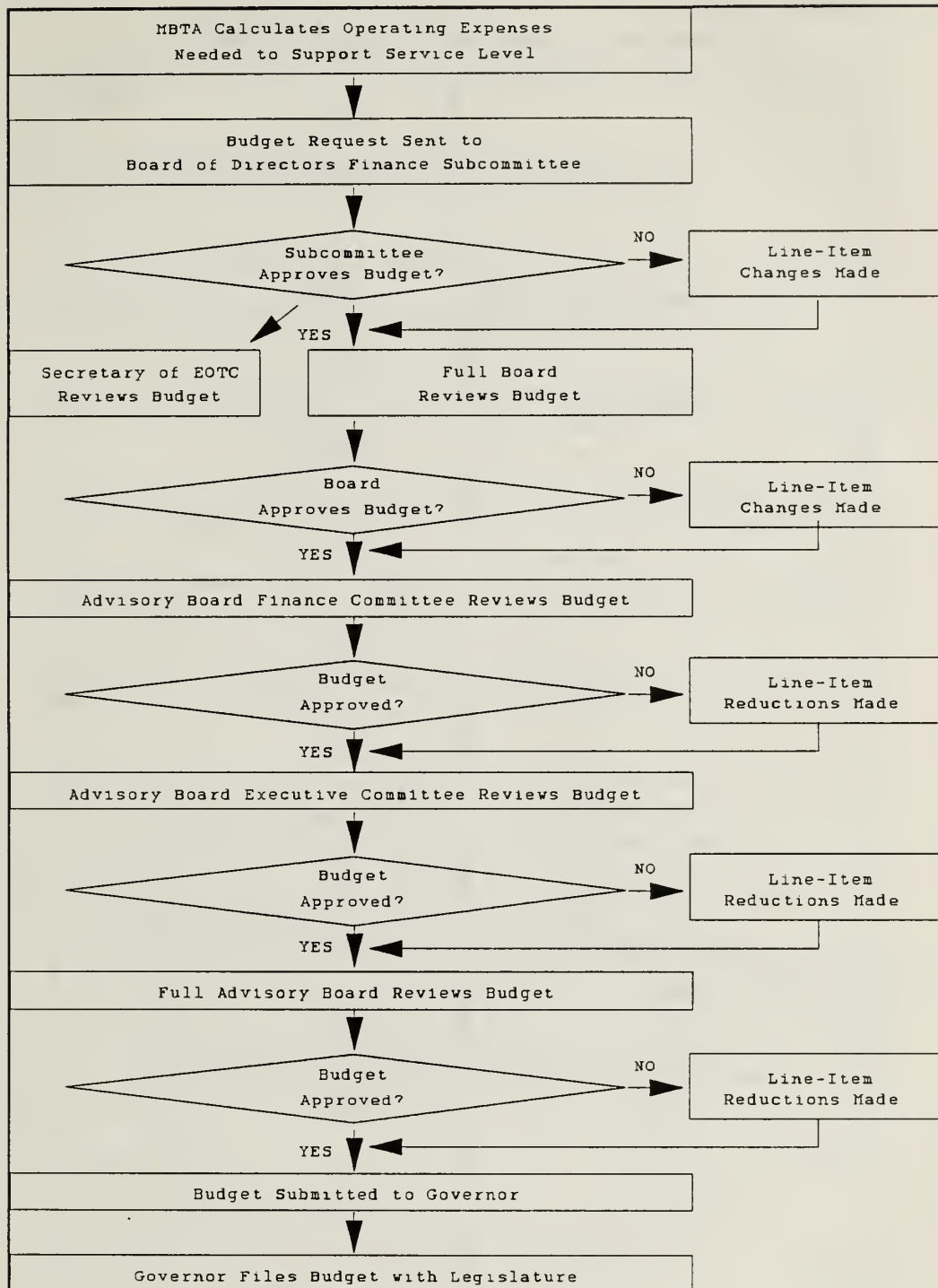
- **Tort Liability.** The State and all 351 of its communities are protected by a \$100,000 liability cap on tort claims. By contrast, the MBTA has unlimited tort claim exposure. Granting the MBTA the same limitation on liability as that of the State and its cities and towns would eventually produce savings estimated at \$4 million to \$5 million per year in reduced payments to claimants in judgments or settlements. In addition, insurance expenses could be cut by approximately \$1 million per year;
- **Workers' Compensation.** Significant additional reform of workers' compensation laws could stem the double-digit growth in this expense category. This is an issue faced not only by the MBTA but also by all major employers in the Commonwealth;
- **Revenue Bonds.** Enactment of the authority to issue revenue bonds would allow appropriate capital projects to be self-financing, thereby reducing reliance in State debt assistance;
- **Power Costs.** The MBTA has proposed legislation that would authorize it to join NEPOOL, the New England consortium of electric power utilities. As a member of NEPOOL, the MBTA could shop for the lowest electric rates and save \$2.1 to \$3.2 million annually; and
- **Parking Enforcement.** Legislation has been proposed to provide MBTA Police with the power to enforce parking regulations on MBTA property. This will permit the maximization of revenues from MBTA parking lots.

The MBTA Budget Process

Another important reason the MBTA has reduced per-mile service costs and limited its spending growth to a lower rate than the overall increases in State spending is the extensive budgetary oversight to which the MBTA is subject. Before the MBTA can spend operating funds, its budget must be approved by both the Governor (through the Board of Directors) and the MBTA Advisory Board. Furthermore, capital spending is subject to additional approvals by the Governor (through the Secretary of Transportation and Construction and the Secretary of Administration and Finance), and by the Legislature through control of the size and timing of the Commonwealth's periodic Transportation Bond bills.

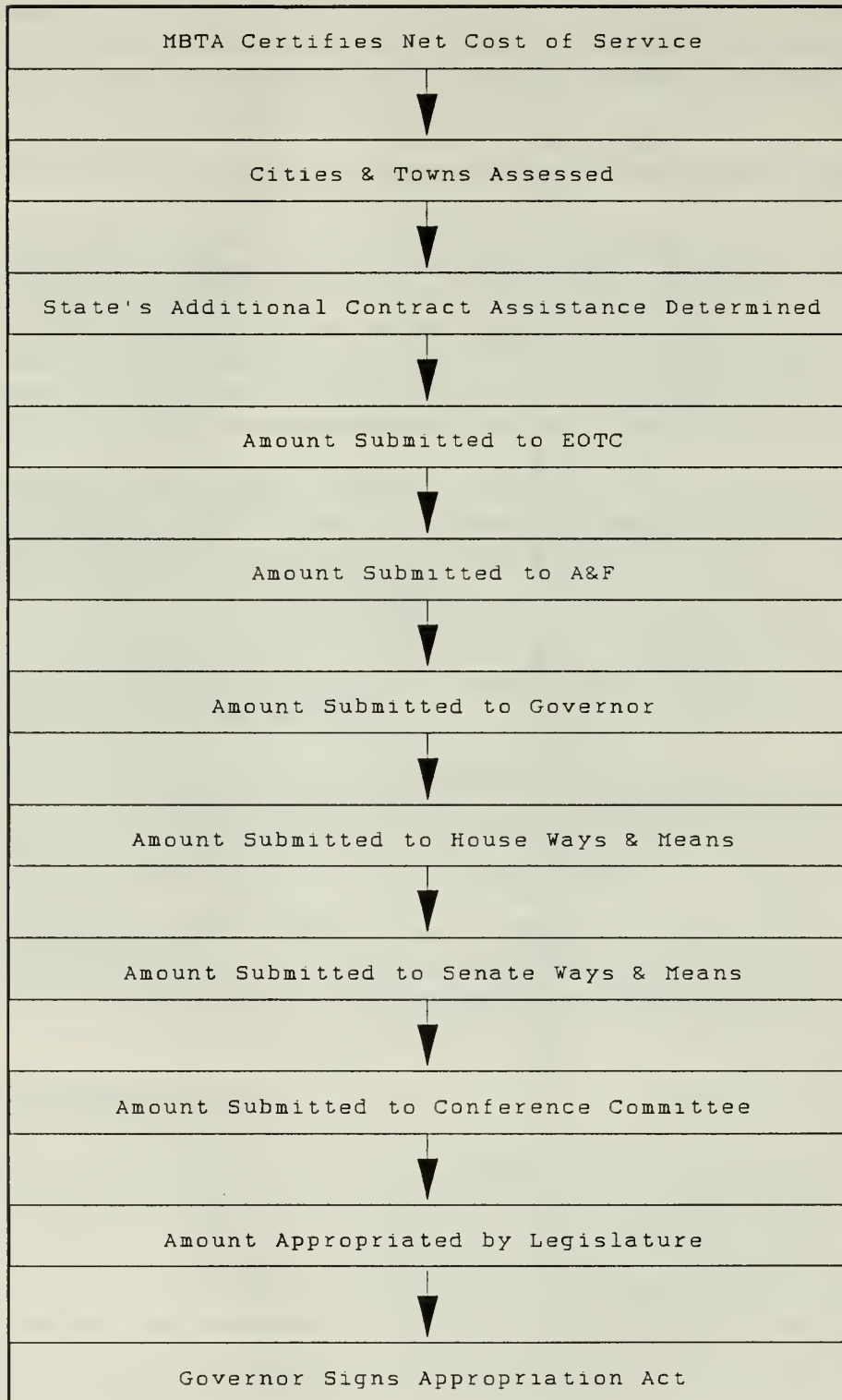
The MBTA Operating Budget Approval Process

Chart 2-17



10 Steps - 5 Separate Approval Points

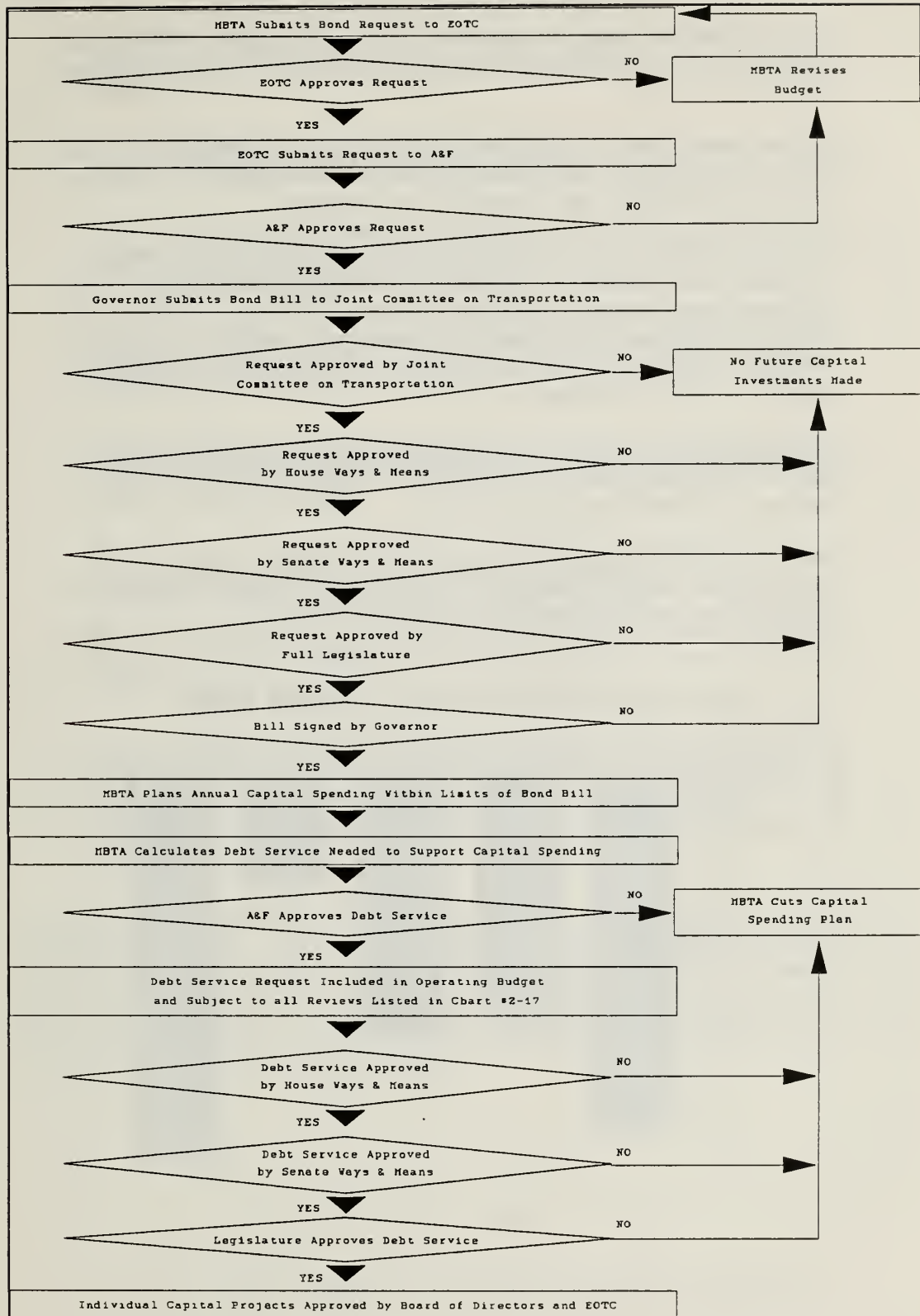
The MBTA Additional Contract Assistance Approval Process
Chart 2-18



11 Steps

The MBTA Capital Budget Approval Process

Chart 2-19



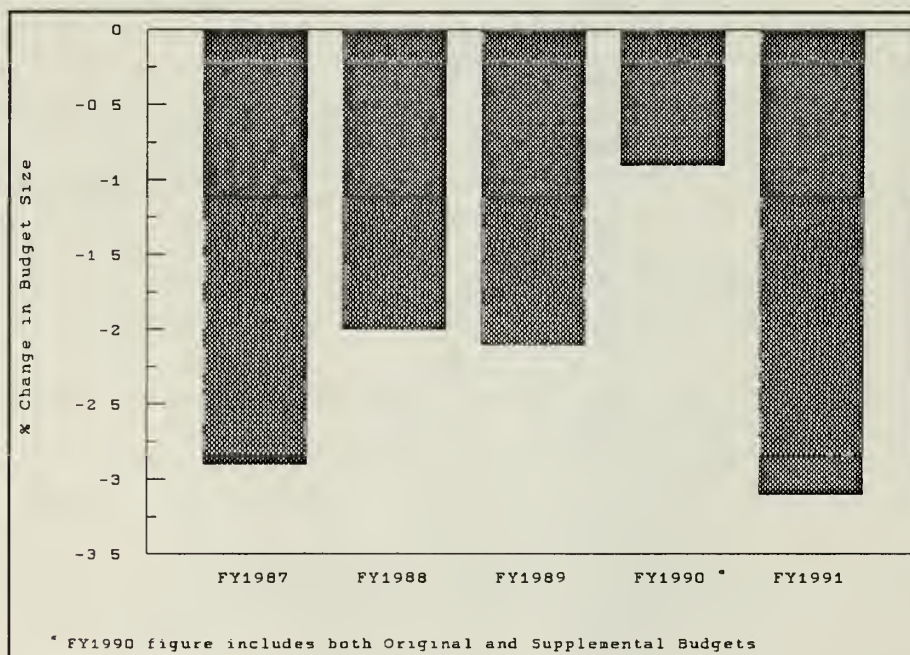
18 Steps - 11 Separate Approval Points

The major steps of the MBTA operating budget process include:

- The MBTA first determines the level of service it plans to offer in the next fiscal year. MBTA staff then calculate the cost of providing that service;
- Before the MBTA can submit its budget to the Advisory Board, it must first be approved by the Chairman and Board of Directors, thereby effectively providing budget control to the Governor;
- The budget must then be approved by the Advisory Board's Finance Committee and Executive Committee, as well as the full Board. The Advisory Board **cannot increase** any line item in the budget. The Advisory Board can either accept the budget as presented or subject it to line item reductions. In practice, the Advisory Board generally cuts the MBTA's budget, as Chart 2-20 shows;
- The Advisory Board then submits the approved budget to the Governor, who in turn files it with the Legislature. All of these steps occur in advance of the MBTA's fiscal year; and
- At the same time, the Governor also submits a request to the Legislature for Additional Contract Assistance. This covers the State's share of the MBTA's Net Cost of Service for the previous calendar year.

Cuts Made by Advisory Board to MBTA Budget

Chart 2-20



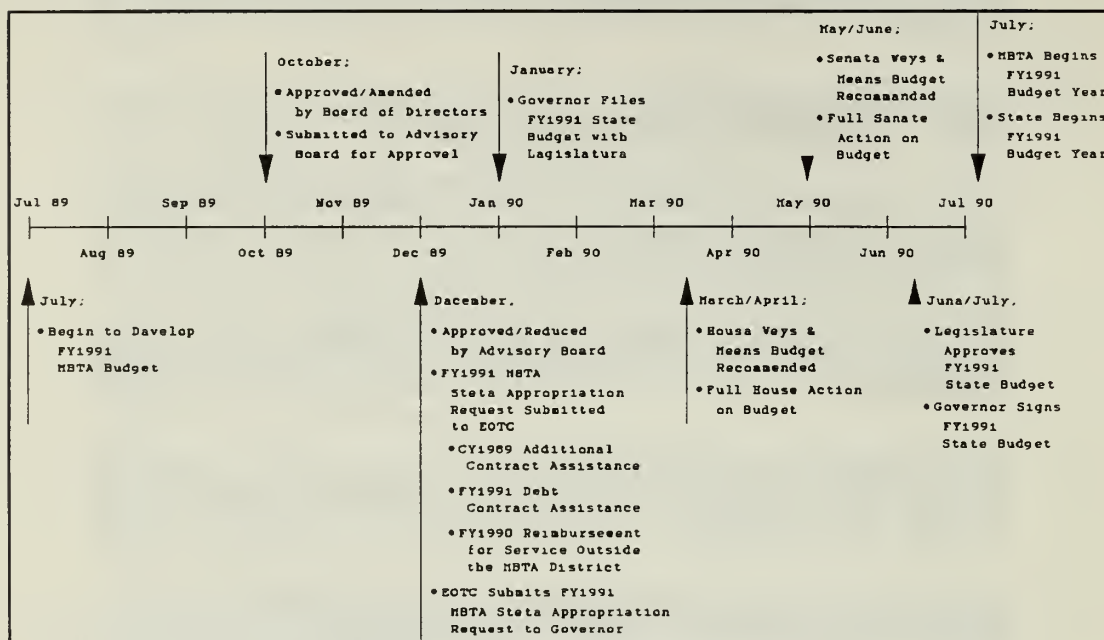
The budget oversight process for capital spending is also extensive. The major steps include:

- The MBTA identifies its capital improvement needs and submits a bond request to the Executive Office of Transportation and Construction (EOTC);
- If EOTC approves the request, it forwards the request to the Executive Office of Administration and Finance (A&F);
- If A&F approves the request, the Governor submits it to the Legislature where it is first referred to the Joint Committee on Transportation, as part of a larger Transportation Bond bill;
- The bond bill must go through the normal Legislative review process, including scrutiny by both House and Senate Ways and Means Committees;
- If the Legislature approves the bond bill (which requires a two-thirds majority), the MBTA can then plan its annual capital spending within the limits set by the bond bill;
- However, before any of that money can be spent, the MBTA must secure approval of the debt service needed to pay the bonds;
- The amount of debt service must be approved by the MBTA Board of Directors, EOTC, the MBTA Advisory Board, A&F, and both branches of the Legislature; and
- At this point, the MBTA has received approval of its aggregate level of capital spending. However, before the MBTA can actually spend any money, it must gain the approval of its Board of Directors and the Secretary of Transportation and Construction for each individual capital project over \$1 million.

The budget process begins a year in advance of the start of the fiscal year in which the spending will occur. The Advisory Board produces a final budget by December; thus, the MBTA's budget process is completed six months before the start of the fiscal year. This advance budgeting is important to a service as basic as public transportation. If cuts need to be made, MBTA management has six months to both minimize the impact on operations and notify riders of any changes.

MBTA Budget Timeline FY1991

Chart 2-21

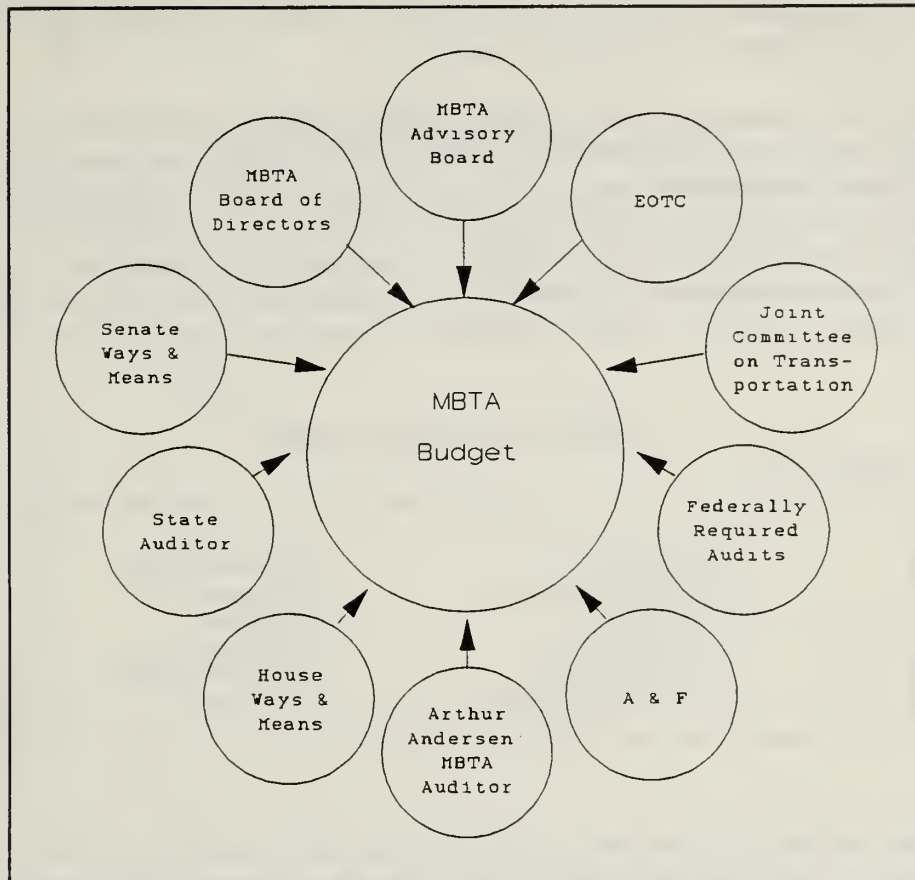


This lead time saves money. Each quarter, the bus and subway schedule is changed to reflect seasonal commuting habits. To minimize labor costs, the MBTA also tailors work assignments to the new schedule. MBTA employees then pick their new work assignments according to seniority and other union rules. Because the process is complex and involves more than 3,000 employees, it requires substantial lead time. If the MBTA did not know its budget until a few days before the start of the fiscal year, this scheduling efficiency could not be achieved for the first quarter of the fiscal year, and labor costs would increase.

Budgetary oversight continues in many cases even after the completion of the budget approval process described above. For example, actual commencement of a capital improvement project in excess of \$1 million requires approval from the Secretary of Transportation and Construction, even after the MBTA has obtained the prospective bonding and debt service approvals from the Legislature. In addition, annual audits of the MBTA are performed by both the State Auditor, who submits his report to the Governor and the Legislature, and also by the MBTA's own independent public accountants, whose reports are included as part of the MBTA's financial statements.

Who Is Involved In the MBTA's Fiscal Affairs?

Chart 2-22



The MBTA's success in recent years in controlling its costs and expenses is due in large measure to the rigor of the budget process and the active involvement of the executive and legislative branches of State government, the representatives of the cities and towns who serve on the Advisory Board, and the staff of the Advisory Board.

Funding Sources

The MBTA has four sources of funding: its own income (primarily fares), federal operating assistance, local assessments, and State assistance. Major shifts in the proportion of the MBTA's budget funded by each of these sources have occurred in the last decade. Own source income, federal operating assistance and local assessments have all declined as a percentage of the MBTA's total budget, while the State's share has grown significantly. Each of these funding sources is described in more detail below.

Own Source Income

Fares. Fares for most MBTA services remained stable from 1982 to 1989. Total fare revenue grew because of ridership growth, but this growth did not keep pace with either inflation or the growth in the MBTA's budget.

MBTA fare policies have been carefully managed during this period with a principal strategy of maintaining and increasing ridership in the course of the system's \$2.5 billion modernization and expansion program. Another factor, and one in which the Legislature has participated directly through statutory instructions to the MBTA, is the maintenance of very low fares for students, the elderly, and passengers with disabilities. In 1989, in view of the improvements in the system and in response both to inflation and the State's budget deficit, the MBTA initiated fare and fee increases as shown in Chart 2-23:

1989 Fare and Fee Increases

Chart 2-23

• Commuter rail	17% to 32% increase
• Subways and streetcars	25% increase
• Express buses	25% increase
• Commuter boat	33% increase
• Subway Parking	33% to 100% increase
• Commuter Rail Parking	No fees before

These increases will generate approximately \$20 million annually. Future prospects for revenues -- including fares, parking fees, advertising revenue, sale of property and investment income -- are described in detail in Chapter 6.

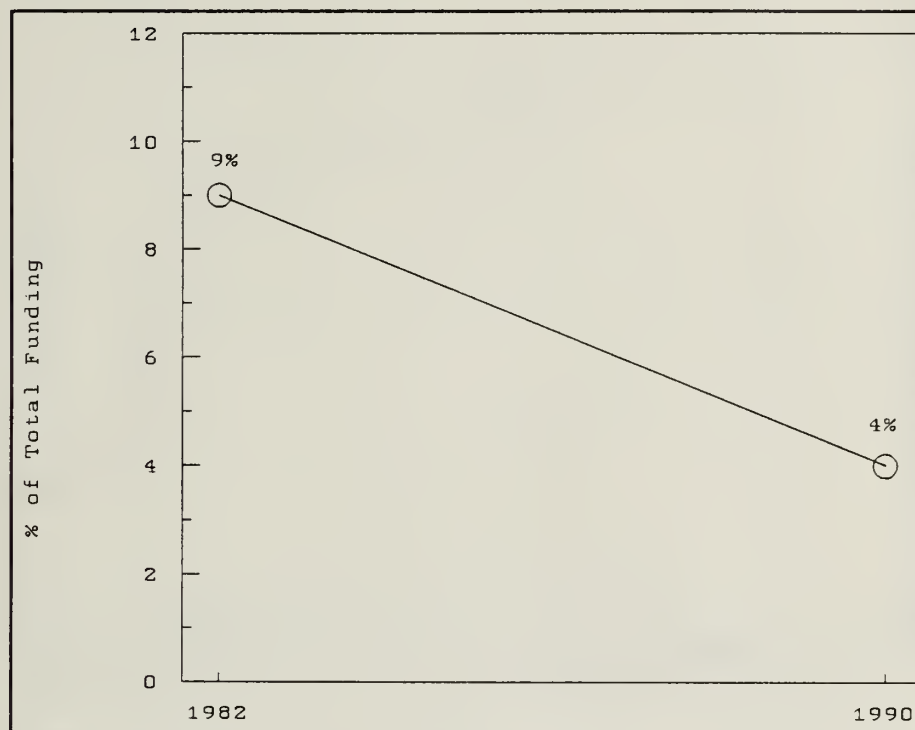
Federal Operating Assistance

Prior to the 1980s, the MBTA operated with the benefit of a substantial federal financial commitment to help meet the costs of public transportation. New federal fiscal policies and other federal spending priorities during the 1980s, however, have had a significant adverse effect on the MBTA's finances.

Federal operating assistance has declined as a percentage of the MBTA's subsidy every year since 1982. In 1990, federal operating assistance will have fallen to \$17.9 million. Had the percentage remained constant over this period, the federal government would be contributing \$24 million more in 1990.

**Federal Share of MBTA Cost
in Excess of Income: 1982 vs. 1990**

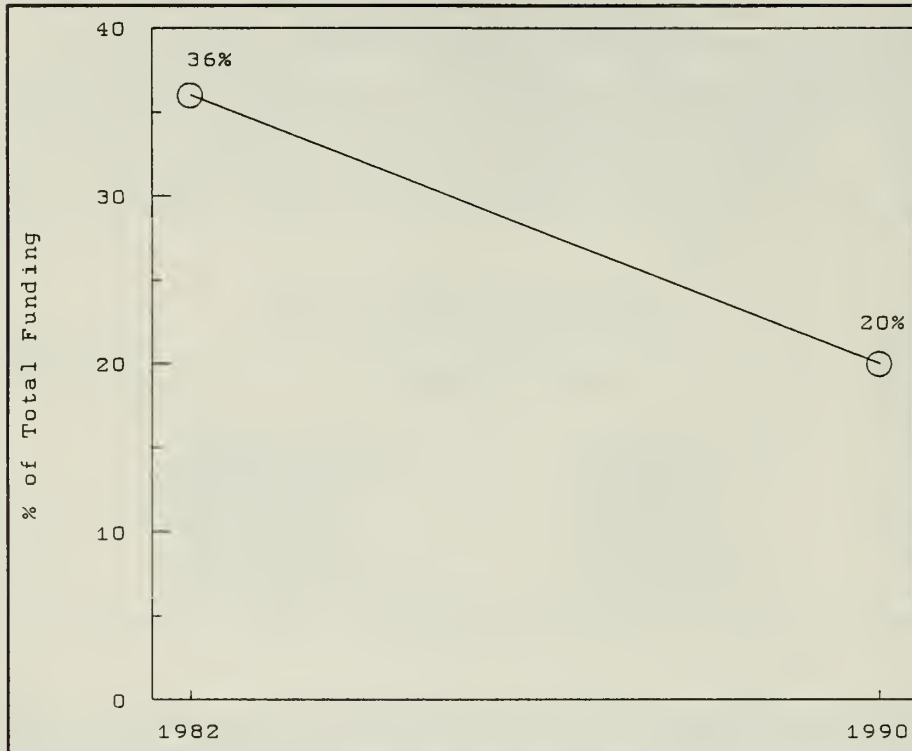
Chart 2-24



Local Assessments

Local Share of MBTA Cost in Excess of Income: 1982 vs. 1990

Chart 2-25

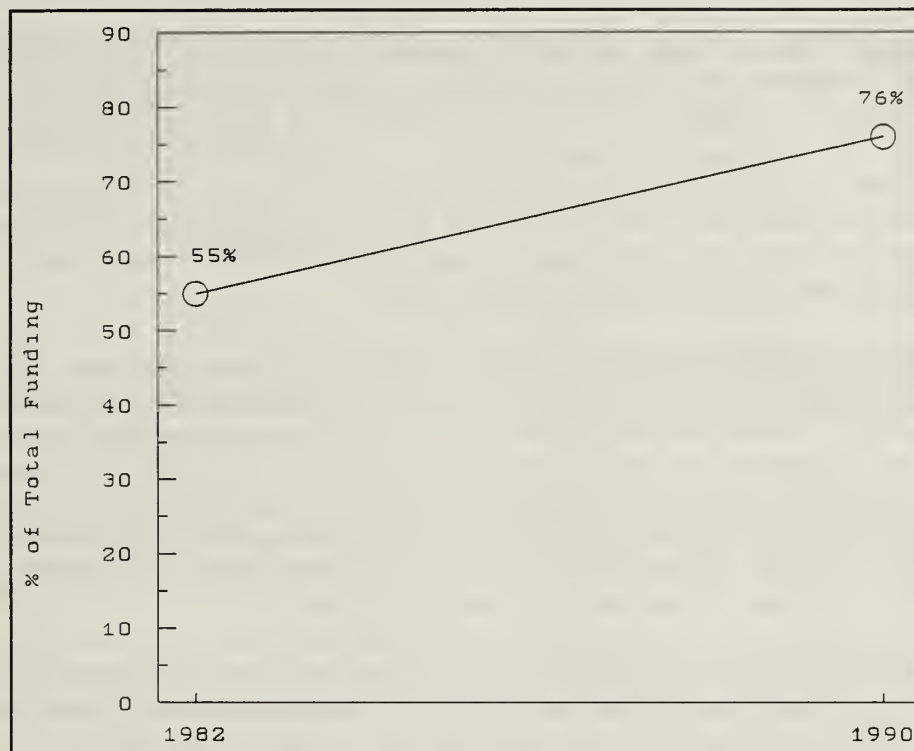


Proposition 2½ has significantly reduced the share of MBTA operating expenses supported by local property taxes and other local income sources. Total assessments have grown slightly, as permitted by Proposition 2½, but their share of the total MBTA subsidy has fallen dramatically, as has the inflation-adjusted value of the local assessment. Absent Proposition 2½, the 1990 assessment would be \$65.7 million higher than the projected level of \$115.7 million. This issue is discussed in greater detail in Chapter 4.

State Assistance

State Share of MBTA Cost in Excess of Income: 1982 vs. 1990

Chart 2-26



The State is the payer of last resort. This is the legacy of historical decisions about how the system should be funded as now played out in the context of Proposition 2½ and declining federal support for public transportation. The State's share has grown significantly in recent years and will continue to grow unless changes are made in how the MBTA is funded.

Projected Financial Performance: 1990 to 1995

Improved public transportation is critical to economic growth. Boston cannot absorb any more automobile traffic, and there will be no relief until at least 1998, when the new central artery and third harbor tunnel open. Even then, highway capacity will be insufficient to permit continued economic growth. Development of the South Boston Piers to full potential, for example, cannot happen without extending public transportation to that area.

The demand for public transportation is not restricted to Boston and its immediate suburbs. More and more communities at a distance from Boston want commuter rail

service and The RIDE, the MBTA's two most expensive services, as measured in cost per trip.

Meeting all of these demands will require continued capital investment and continued growth in the MBTA's operating budget. While vigorous cost control and additional privatization of both operating and capital costs can stretch each dollar, even the most aggressive cost control program cannot simultaneously increase service and decrease costs.

Between 1990 and 1995, the MBTA estimates its budget will grow by 8.1 percent annually. Aside from debt service, the MBTA budget is expected to grow by only 6 percent per year. Adjusted for inflation, this is less than one percent growth per year. Moreover, with continued increases in service, the MBTA expects that the real cost of a mile of service will be lower in 1995 than it is today. However, continued expansion of the system will cause debt service to grow by 15 percent annually. Assuming no change in federal participation in public transit investment, capital improvements must be funded by borrowing which results in growing debt service.

Given this growth in the total budget, the State subsidy must also grow. This growth will occur even with a fare increase required to maintain the 33 1/3 percent fare recovery ratio. A major reason for this increase is the capital investment needed to continue to expand and modernize the system. Since fixed charges are projected to increase by 15 percent annually over the next five years, the State's total debt service assistance is projected to increase as well. The State's contribution to operating expenses should rise more slowly, but will still increase by over 10 percent annually. This increase is caused primarily by declining federal assistance and Proposition 2½.

Notwithstanding this rate of growth in the State share, it is unlikely that the MBTA subsidy will represent a major portion of total State spending. Currently, total State funds for the MBTA represent only three percent of the overall State budget. With the inevitable growth in State expenses over the next five years, this share will not change materially.

Conclusions

This chapter has covered a lot of ground, from the early history of public transportation, to the MBTA's most recent cost control efforts, to predictions of future MBTA budgets and their impact on the State. The important points to remember include the following:

- Daily ridership is up 100,000 since 1982 and customer satisfaction stands at 92 percent, an all-time high;
- There is significant demand for increased public transportation. Meeting this demand requires significant capital investment;
- Costs are being controlled. The MBTA is one of the few government agencies that has reduced the real cost of its basic unit of service. Current management initiatives to control costs should result in \$10 million annually in cost savings and cost avoidance;

- There is extensive budget oversight. The Governor, the Advisory Board and the Legislature all have substantial control over the MBTA budget. The Governor (through the Secretaries of Transportation and Construction and Administration and Finance) and the Advisory Board have direct, prospective control over operating costs. The Legislature, through its authorization of the MBTA's bonding levels, controls the future expansion of the system;
- MBTA spending is also audited by the State Auditor, the Federal government and an independent firm of certified public accountants. The results of these audits are presented to the Governor, the Legislature and credit rating agencies;
- The State's practice of advancing working capital to the MBTA for its operating costs originated in 1918;
- The fastest growing part of the MBTA's budget -- debt service -- is the part that is under direct, prospective control of the Legislature and the Governor. Growth is in large part attributable to declining federal grants for capital improvements and the State's commitment to a modern and safe public transportation system; and
- Because all other sources of revenue are severely constrained, the State's share of the MBTA subsidy is rapidly rising, both as a percentage of the subsidy and in absolute dollars.

The remainder of this study explores ways to change the way the MBTA is funded. Chapter 3 discusses forward funding and analyzes whether there could be any savings through this shift from retrospective to prospective financing by the Commonwealth. Chapter 4 examines the possibility of changing either the local assessment formula or the size of the MBTA district. Chapter 5 looks at fares and other own-source revenue. Chapter 6 reviews other transit systems to find what Massachusetts can learn from them. Chapter 7 offers alternative opportunities for MBTA funding.

CHAPTER 3

Forward Funding

Introduction

All major transit systems require some amount of subsidy from taxpayer dollars because fares cannot be priced economically and still cover the entire cost of operations. Most transit systems rely on a combination of State and local subsidies to make up the shortfall. In view of the substantial benefits of public transit accruing to all taxpayers in the form of economic growth, reduced traffic congestion and cleaner air, use of taxpayer subsidies to fund part of the cost of public transit operations generally is considered not only necessary, but fair and equitable.

As described in Chapter 2, the MBTA cannot spend any funds on either its operations or its capital improvement programs without the prior budgetary approval of its Board, the Secretary of Transportation and the MBTA Advisory Board. Because of its unique history, however, the MBTA's subsidies from the State have, since 1918, been partially prospectively appropriated by the Legislature and partially appropriated after the actual shortfall between revenues and the pre-approved expenses has been finally determined. Although the MBTA's budget is prospectively reviewed and approved by both its Board and the MBTA Advisory Board, the State's appropriation of the portion of the State subsidy which covers the Commonwealth's share of the shortfall between transit revenues and pre-approved expenditures -- and the State Treasurer's actual assessment of the local share of that shortfall on cities and towns -- occurs after transit revenues have been collected and federal operating assistance and expenses have been made, when the size of the required State and local subsidy is known. Pending receipt of these State appropriations and local assessments, the MBTA's operations are funded by MBTA and State working capital borrowings.

The recently enacted Budget Control and Reform Act of 1989 requires the MBTA to present a plan for reducing the MBTA's working capital borrowing costs by moving the legislative appropriation process for the MBTA's operating subsidy to a prospective basis (so-called "forward funding"). In response to that legislation, this chapter:

- Describes the "forward funding" concept;
- Explains the MBTA's current system of funding;
- Summarizes the MBTA's response to prior legislation addressing this issue;
- Analyzes the costs and benefits of implementing forward funding; and
- Presents an alternative to immediate implementation of forward funding that may meet legislative objectives concerning MBTA financial practices.

Forward Funding in English

"Forward funding" is the label used to describe a change in the timing of State appropriations of MBTA operating subsidies. Under forward funding, local and State operating subsidies for the MBTA that are now financed by working capital borrowings pending receipt of local assessments and State appropriations instead would be subject to concurrent local assessment and State appropriation.

Other chapters of this report describe the two current MBTA borrowing practices that are at the heart of the forward funding question. First, assessments to the cities and towns for their portion of annual operating expenses have historically been calculated and assessed by the State to the cities and towns after the MBTA operating year in which costs were incurred. Though the local assessments are not subject to appropriation by the State, the State has financed the local share of the MBTA's operating subsidy pending receipt of the assessments. Under this system, the MBTA and the State have funded the Authority's day-to-day operating expenses largely with borrowed money, or working capital, which is repaid when the assessments are received at a later date.

Second, as State subsidy payments have come to be used to augment the contribution of local assessments to the MBTA's operating budget, these payments have been calculated, like the local assessment, following service delivery, when the exact amount of the required State subsidy can be determined.

In the case of both local and State subsidies, funding of the MBTA operating costs--through assessment receipts in one case and State appropriations in the other--has been achieved after a time lag from the associated MBTA expenditure. Meanwhile, the MBTA's daily operating expenses have been financed with borrowed cash, known as working capital. This working capital has been used by the Authority to fund its daily operations in anticipation of later payment of the local assessments and legislative appropriation of the State's operating subsidies to the MBTA.

To achieve forward funding, MBTA and State borrowings which now finance the Authority's working capital cash flow needs must be paid off. By analogy to a corporation which wants to cease financing its cash needs with working capital bank loans, forward funding would require the State and the MBTA to "take out" the banks so as to fund the MBTA's cash flow from current revenue.

The concept of forward funding, as described above, is relatively simple. Implementation of forward funding is a more complex matter. The appeal of forward funding is that it might eliminate a major portion of the interest costs now incurred by those borrowing programs. The concern about forward funding is that the large financial commitment to "take out" the interim borrowings may be more costly, at least in the near future, than the costs of the short-term borrowing that the MBTA now relies upon. A corporation, by analogy, which is cash-rich, might well decide to reduce its reliance on bank lines of credit for working capital requirements. On the other hand, a corporation which is cash-poor might find that continued working capital funding through bank lines of credit is preferable to alternatives which required commitments of scarce available cash or the incurring of additional long-term debt.

The Current System of State Appropriations for the MBTA

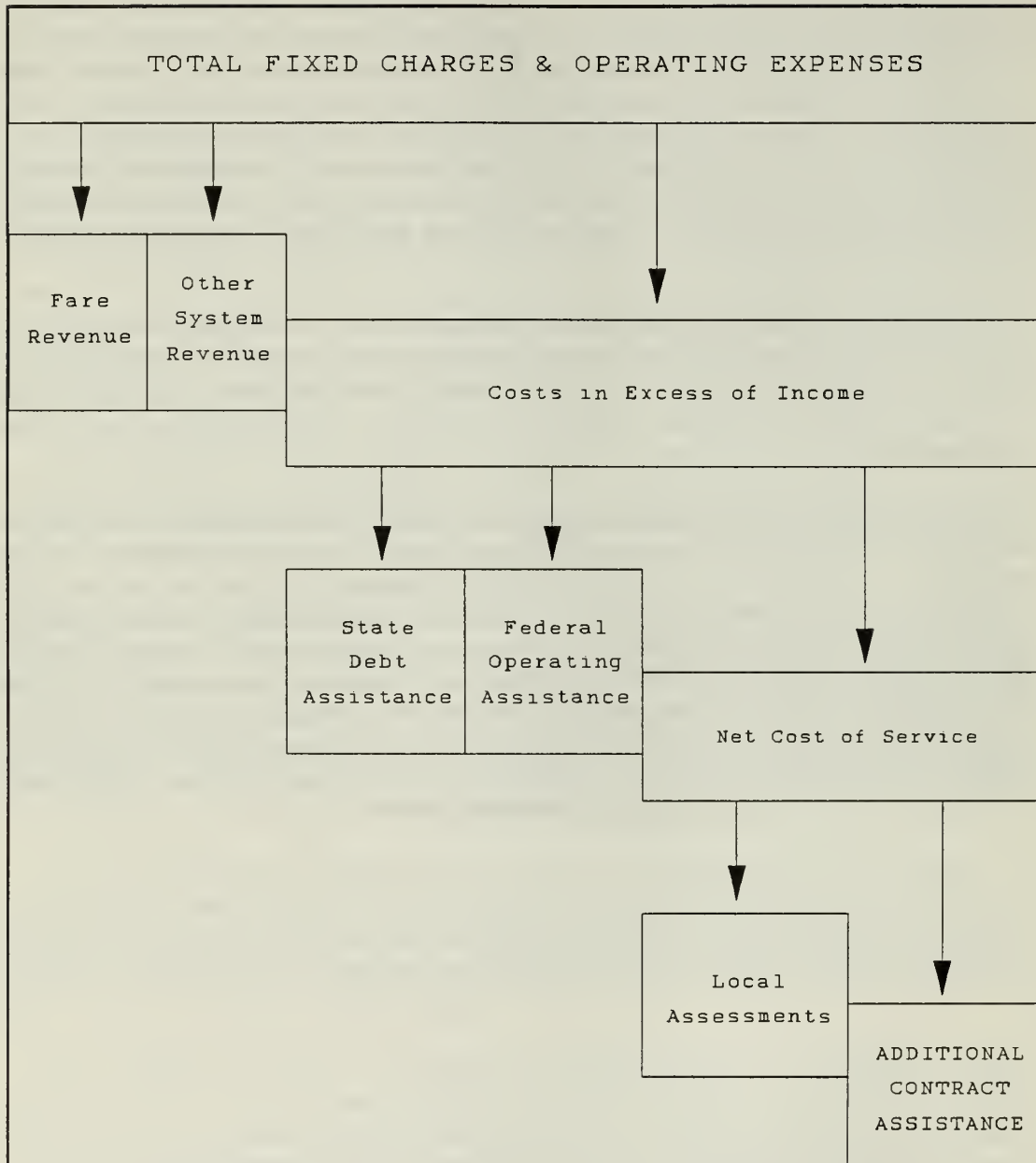
Even before transit services in greater Boston were publicly operated, the Commonwealth supported their operation by advancing working capital for day-to-day cash needs. This practice began in 1918 and continued with the establishment, in 1948, of the MBTA's predecessor, the MTA. In 1948, cities and towns within the service district were to pay the entire cost of operations not covered by transit system revenues. As under the previous arrangement, assessments were made after the size of the required operating subsidy had been computed so that each municipality's assessment could be accurately determined.

This system of assessments on cities and towns eventually was supplemented by State subsidies. Some of the subsidies, in particular direct State subsidies to defray a portion of debt service on MBTA bonds -- known as State Contract Assistance -- are and always have been appropriated by the Legislature in advance of the applicable debt service requirements.

On the other hand, the State subsidy for operating costs incurred each year in accordance with the MBTA's approved operating budget -- known as Additional Contract Assistance -- is calculated on the basis of MBTA calendar year costs, as are the local assessments. As illustrated in Chart 3-1, it is simplest to understand Additional Contract Assistance as the amount required to cover remaining costs after revenues, federal assistance, State Contract Assistance and local assessment amounts are subtracted from system expenses. While assessments are made on MBTA member cities and towns by the State Treasurer without appropriation by the State, the Additional Contract Assistance amount is finally determined after all other sources of revenue are known and is then included in the State budget for legislative appropriation.

How Additional Contract Assistance is Calculated

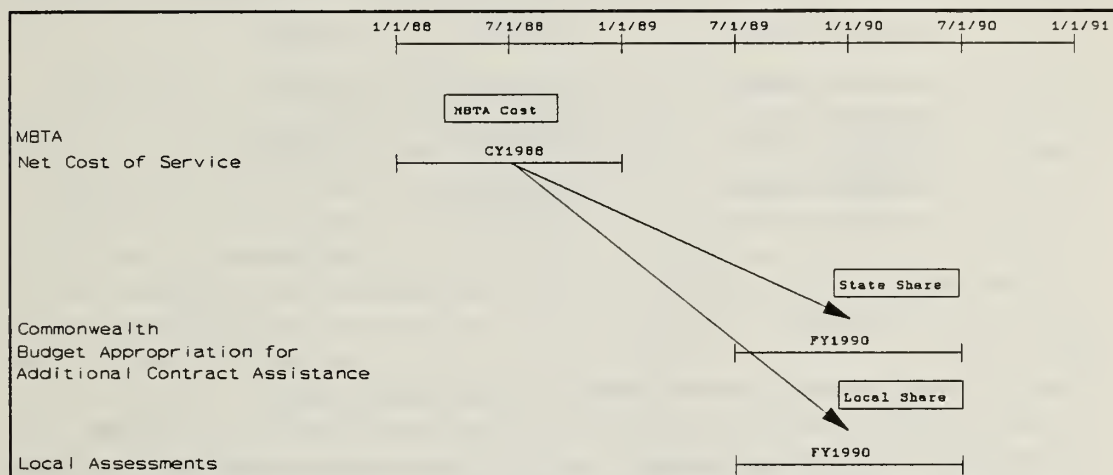
Chart 3-1



Because it is the source of funds that covers all expenses not paid by other funding sources, the State Additional Contract Assistance appropriation occurs in the first State fiscal year following the calendar year in which MBTA expenses were actually incurred. Thus, the Commonwealth's FY1990 budget includes the State's appropriations for the CY1988 MBTA operating subsidy.

Timing of State Appropriation and Local Assessment for Calendar Year 1988 Net Cost of Service

Chart 3-2



It should be noted that a significant portion of the MBTA's expenditures are already forward funded, in that they are subject to advance legislative appropriation. For example, State Contract Assistance for debt service has been appropriated in advance by the State ever since it undertook such support for the MBTA in 1964. Similarly, through periodic enactment of Transportation Bond authorizations and MBTA debt limit adjustments, the Legislature has always acted prospectively on the major capital expenditure programs of the MBTA. Only that portion of the system's pre-approved expenses, as described above, which required computation after actual operating expenses could be compared to the calendar year's actual fare revenue and other income, has fallen outside the forward funding model.

The Legislature earlier had appropriated the State subsidy for services provided outside the district (described in Chapter 4) in advance, but recently moved from forward funding this subsidy to a system in which appropriations are made after the amount of the actual subsidy is known. The portion of this account which subsidizes commuter rail services was partially shifted back six months in FY1988 to generate savings for the State. Last year, in the FY1990 budget process, the same portion of the account was shifted back another six months by the Legislature. This year, House 1 proposes that the remainder of the account, which covers bus service outside the district, be shifted back the full 12 months.

In the next chart, the timing of State subsidy appropriations to the MBTA is illustrated and combined with other steps in the MBTA budget approval process.

Timing of MBTA Budget Approvals

Chart 3-3

<u>Portion of MBTA Budget</u>	<u>Timing</u>	<u>Approval Authority</u>
Operating Expenses	Prospective	Advisory Board
Debt Service	Prospective	Advisory Board
Debt Service Assistance	Prospective	Legislature
Capital Expenditures	Prospective	Legislature
Additional Contract Assistance	Retrospective	Legislature
Assistance for Services Outside the District	Retrospective as of FY1988	Legislature

The MBTA's Current System of Working Capital Financing

Obviously it would be impossible for the MBTA to deliver service if it did not receive funds for its operating subsidy until after expenses were incurred. To ensure that MBTA operations are not interrupted due to delays in funding, a financing system to provide the MBTA with cash to meet day-to-day expenses -- dating back to 1918 -- provides for the following:

- The MBTA does its own short-term borrowing twice annually to provide working capital;
- The State Treasurer provides monthly advances to the MBTA to cover a portion of the costs that will be assessed to the cities and towns; and
- The State Treasurer also provides monthly advances to cover a portion of the costs that will be reimbursed through State Additional Contract Assistance.

In CY1989, for example, the MBTA issued \$255 million of its own short-term notes to cover both expenses and also pay off previous working capital borrowing. Advances from the State Treasurer in CY1989 totalled \$335.6 million.

Naturally, borrowing working capital costs money. Interest costs associated with the MBTA's own working capital borrowing totalled \$17.2 million in CY1989. The State Treasurer also incurred costs for the MBTA's advances of approximately \$12 million.

Proponents of forward funding point to these interest costs as a source of savings that would be realized if the financing of the MBTA was moved to a prospective basis. For

these savings to become a reality, however, a source of cash adequate to meet the MBTA's day-to-day operating needs would have to be available. Otherwise, forward funding would not generate a reduction in total public sector borrowing costs, because State borrowing would be required and any interest cost "savings" relating to the retirement of MBTA-related borrowings would be offset by these other State borrowing costs.

Previous Legislation On Forward Funding

Whether Additional Contract Assistance should be forward funded to reduce the costs of MBTA working capital borrowings was addressed by Chapter 581 of the Acts of 1980 and by an outside section in the FY1987 State budget.

Chapter 581, the same act which reinforced the management rights powers of the MBTA in 1980, instructed the MBTA to replace calendar year accounting for budgeting purposes with a July-to-June fiscal year. The MBTA made this change in its accounting practices and, in conjunction with the Executive Office of Administration and Finance, considered at the time whether changes should be made in the assessment and financing patterns which resulted from its annual deficit computations. Because of the impact on the State budget, it was concluded that the costs to be incurred in financing a "take out" of the outstanding working capital borrowings in order to accomplish forward funding were excessive in relation to the potential benefits in the form of reduced MBTA borrowing costs. At that time, as in the current tax-exempt bond market, interest on long-term bonds which would have been used to finance the "take-out" of the deficit were actually higher than interest rates on the on-going working capital indebtedness. Moreover, Chapter 581 did not provide the State bond authorization necessary to complete a shift to forward funding even if such a shift had been found desirable.

Section 2D of Chapter 206 of the Acts of 1986, (the FY1987 State Budget Appropriations Act), authorized a substantial borrowing to enable the Commonwealth to follow the course declined in 1983. However, once again benefits from the proposed "take out" financing program seemed marginal. No formal "term bill" authorization was filed in connection with the proposed bonds by Administration and Finance and no bonds were issued. From the MBTA's standpoint, in both the 1983 and 1986 considerations of forward funding, the paramount need seemed to be on-going attention to cost control and productivity improvements, especially where forward funding mechanisms might have required large bonding programs adding substantial amounts to State debt service.

Cost control commensurate with adequate service, not financial restructuring, has seemed the most cost effective way to serve the State's needs to restrain any unnecessary growth of the State MBTA subsidy. From the perspective of both the MBTA and the State, the shift to forward funding would do nothing to reduce the Authority's need for additional revenue sources, a need which has been growing as a result of system expansion, declining federal operating assistance and legislative restrictions on the growth of local assessments. Forward funding merely would change the timing of appropriations, not their magnitude. Indeed, by pushing forward the period of MBTA costs covered by the State appropriation, an additional \$40 million would be added to the State subsidy line item.

The Budgetary and Fiscal Consequences of Forward Funding

To implement forward funding, the Commonwealth's operating assistance for the MBTA would be based upon concurrent fiscal year MBTA operating costs and would be appropriated in advance. Likewise, assessments on cities and towns, though not actually appropriated by the Legislature, would be estimated in advance of actual spending and assessed on local governments by the State Treasurer based upon an estimated allocation of costs determined according to the MBTA's current local assessment formula.

Since forward funding would require a shift from the current, calendar-year system to a prospective, fiscal year system, the transition would require an appropriation adequate to cover not only the costs of the upcoming fiscal year, but also the State and local subsidy requirements for all prior periods not yet provided for by legislative appropriations or local assessments. Since the Legislature last appropriated subsidies in its FY1990 budget for the MBTA's CY1988 costs, and the cities and towns were last assessed by the State Treasurer for CY1988, substantial appropriations would be required to implement forward funding.

Fiscal Impacts of Implementing Forward Funding in FY1991

Chart 3-4

	(\$ Millions)		
	<u>Total Amount for Forward Funding</u>	<u>Amount Regularly Budgeted</u>	<u>Additional Amounts for Forward Funding</u>
Debt Service Assistance FY1991	\$141.2	\$141.2	\$.0
State Additional Contract Assistance			
CY1989	235.0	235.0	.0
CY1990	262.6	.0	262.6
CY1991 (First Half)	<u>145.1</u>	<u>.0</u>	<u>145.1</u>
Total Through FY1991	642.7	235.0	407.7
Local Share of Net Cost of Service			
CY1990	118.6	.0	118.6
CY1991 (First Half)	<u>60.8</u>	<u>.0</u>	<u>60.8</u>
Total Through FY1991	179.4	.0	179.4
Adjustment to State Additional Contract Assistance due to Base Year Change in Local Share			
FY1990 (Second Half)	1.4	.0	1.4
FY1991	<u>4.4</u>	<u>.0</u>	<u>4.4</u>
Total Through FY1991	<u>5.8</u>	<u>.0</u>	<u>5.8</u>
TOTAL	\$969.1	\$376.2	\$592.9

Impacts on State Appropriations For Additional Contract Assistance

To forward fund the State's appropriation of the MBTA's operating expenses in FY1991, the State would need to appropriate approximately \$642.7 million in Additional Contract Assistance, or nearly three times the amount of state appropriations for Additional Contract Assistance which would be required under the current appropriation process. The FY1991 Additional Contract Assistance appropriation would increase from \$235.0 million to \$642.7 million, a \$407.7 million increase in State appropriations solely attributable to forward funding. Total FY1991 State appropriations for the MBTA's operating budget, including both Additional Contract Assistance and Contract Assistance For Debt Service, would be \$783.9 million compared to \$376.2 million if the MBTA did not implement forward funding in FY1991 and the current system were maintained.

Impacts on Cities and Towns

Under the current system, MBTA assessments are charged to member municipalities through a reduction in total local aid paid by the State to the municipalities. With no changes in the current State appropriation process, MBTA assessments for FY1991 would be for the local share of CY1989 MBTA operating expenses and would total approximately \$115.7 million (including \$103.6 million for the local share of expenses and \$12.1 million for interest costs related to the State's financing of the local share prior to its assessment). With forward funding, the local share for these assessments would total \$295.1 million, an increase of \$179.4 million, or 155 percent, over the local assessment as now computed. Under forward funding, assessments would have to cover calendar year 1989, calendar year 1990 and one-half of CY1991, thereby making all payments current through FY1991. The additional costs, in the form of a one-time additional reduction in local aid, would total approximately \$179.4 million, bringing total Cherry Sheet reductions in FY1991 to \$295.1 million, compared to \$115.7 million without implementation of forward funding.

Given the adverse impact such additional local aid reductions would have on the MBTA's member communities, past legislative proposals to implement forward funding have called for the State to absorb any transition year effects on MBTA member assessments. Senate Bill 1387, for example, provides that the local share of operating costs for the year of implementation would not be assessed upon the MBTA members. The local assessments for the implementation year would be based on the local share for the prior calendar year, as under current law. This assessment level would then be used as the "base year" for all future local assessments. As a result of this "hold harmless" provision for MBTA member community assessments, to implement forward funding, the State would need to appropriate an additional \$179.4 million to cover the local share of prior year MBTA operating expenses which had yet to be assessed.

In addition, the Commonwealth's share of the MBTA's FY1991 operating costs would be approximately \$5.8 million (including \$1.4 million relating to the last half of FY1990 and \$4.4 million relating to FY1991) larger than it would have been without forward funding. This is because the State FY1991 appropriations under forward funding would relate to the concurrent year, while the local assessments for FY1991 would be based on a prior "base" year, CY1989, which had a smaller total net cost of service and a lower local assessment level than FY1991.

In other words, nearly four percent of otherwise permissible growth in local assessments would be foregone by this "hold harmless" provision. In an environment where a growing state share of MBTA costs has created concern, this would seem to be a step in the wrong direction.

Combined Impact of Forward Funding on FY1991 State Appropriations

Forward funding's combined impact on State FY1991 appropriations, including absorption of any local assessment effects, would be a \$592.9 million one-time increase in State appropriations. This represents the sum of \$407.7 million to forward fund the State's share of the MBTA's Net Cost of Service, \$179.4 million to forward fund the

MBTA member communities' share and \$5.8 million to fund the incremental increase in the State's additional assistance resulting from the use of CY1989 as the base year for computing FY1991 local assessments. Total FY1991 State appropriations for the MBTA, including Contract Assistance for Debt Service, would be \$969.1 million, rather than \$376.2 million. These impacts on the FY1991 State budget appear to be a significant drawback to immediate implementation of forward funding in FY1991.

State Cash Flow and Financing Effects of Forward Funding

Since the MBTA's operating expenses are currently funded through a combination of MBTA note borrowings and advances from the State Treasurer made prior to appropriation, the cash flow and financing effects on the State differ significantly from the effects on State appropriations.

Cash Flow. To bring the Authority's cash flow and financing into conformity with forward funding in FY1991, the State would have to provide a total of over \$1 billion cash, including:

- \$305 million in cash to retire the outstanding MBTA notes (\$290 million in notes plus approximately \$15 million in interest),
- \$317 million in cash to retire outstanding Commonwealth notes issued to fund the Treasurer's advances (\$302 million in notes plus approximately \$15 million in interest), and
- \$381.5 million in cash to finance FY1991 operating expenses, including both the State's share and the local share pending its assessment.

Of this amount, \$381.5 million represents the projected level of State Treasurer advances that would be paid during FY1991 and financed prior to appropriation by State note borrowings under the current system even without implementation of forward funding. (Of this \$381.5 million amount, the Treasurer would assess \$115.7 million in FY1991 MBTA operating expenses to cities and towns for the base year 1989). Accordingly, the net increase in State cash requirements for the MBTA resulting from forward funding would be \$622 million.

Financing Impacts. Since the State itself currently is running a sizeable operating deficit, unless additional revenues are raised, State cash outlays for the forward funding of the MBTA would presumably be financed through Commonwealth borrowings. Accordingly, the retirement of outstanding MBTA notes by the State would not reduce the financing costs associated with funding the MBTA; these costs simply would be shifted to the Commonwealth which either could issue its own short-term tax-exempt notes at rates comparable to those on MBTA notes borrowings (which are backed by the State's general obligation credit) or could issue long-term tax-exempt bonds at interest rates which currently are higher than short-term tax-exempt rates by approximately 1.5 percentage points. The economics of such a long-term bond issue are described in detail later in the chapter.

Accounting Adjustments. Forward funding also would require a number of sizeable accounting adjustments to both the MBTA and Commonwealth audited financial

statements that would increase the complexity of the MBTA's bookkeeping practices. For example, the Authority's financial statements are prepared according to generally accepted accounting principles (GAAP). The GAAP statements are used in accordance with the customary standards for public entities like the MBTA whose bonds and notes are sold in the capital markets. If forward funding were implemented, the Authority would need to maintain two set of accounting records, one to meet the requirements of the State appropriation process and the other to meet the demands of the capital markets. This dual accounting system would be necessary because the Commonwealth keeps its financial records on both a GAAP and on a budgetary basis. The equivalent systems for the MBTA would be GAAP and modified cash. Accordingly, to meet the requirements of the State appropriations process, the MBTA accounts would need to be kept on what is called a modified cash basis, in which items of appropriation are generally approved in an amount equal to the actual cash required during the fiscal year of appropriation, regardless of the amount of the expenses actually incurred during that fiscal year. However, the national bond rating agencies, including Standard & Poor's and Moody's Investors Service, and bondholders would continue to require that the MBTA present its financial statements, as it does currently, on the basis of generally accepted accounting principles (GAAP).

Fiscal Impacts of Forward Funding on the MBTA

For the MBTA, forward funding in FY1991 would have three primary effects on its finances:

- As noted above, significant changes in the MBTA's accounting practices would be required to meet both generally accepted accounting principles (GAAP) required by bondholders and modified cash accounting rules followed by the Commonwealth in its appropriation process;
- MBTA notes would be retired at their maturity. As long as State allotments of Additional Contract Assistance appropriations were adequate in amount and timing to meet MBTA operating needs, no further Authority note borrowing would be required for operations; and
- As a result, the MBTA operating budget line item for "Interest on Unfunded Debt" would be eliminated, producing a reduction in estimated FY1991 MBTA operating expenses of \$19.3 million. Unless the State raised sufficient revenues to fund the MBTA note retirements, however, the Commonwealth would have to borrow the funds to repay the Authority notes and would pay interest expenses comparable to that "saved" on the retirement of the MBTA notes. In that case, the cost of the borrowing simply would be shifted from the Authority's budget to the State budget and no savings would be realized.

Economics of Forward Funding Alternatives

Commonwealth bond issuance. To meet the cash flow requirements of fully implementing forward funding in FY1991, the Commonwealth would have to issue more than \$600 million in bonds to repay all outstanding MBTA working capital financings, including MBTA notes and State notes used to advance funds to the Authority prior to appropriation (with the exact amount depending upon total interest due on working capital borrowings outstanding at that time and upon the application of cash generated by the local assessments).

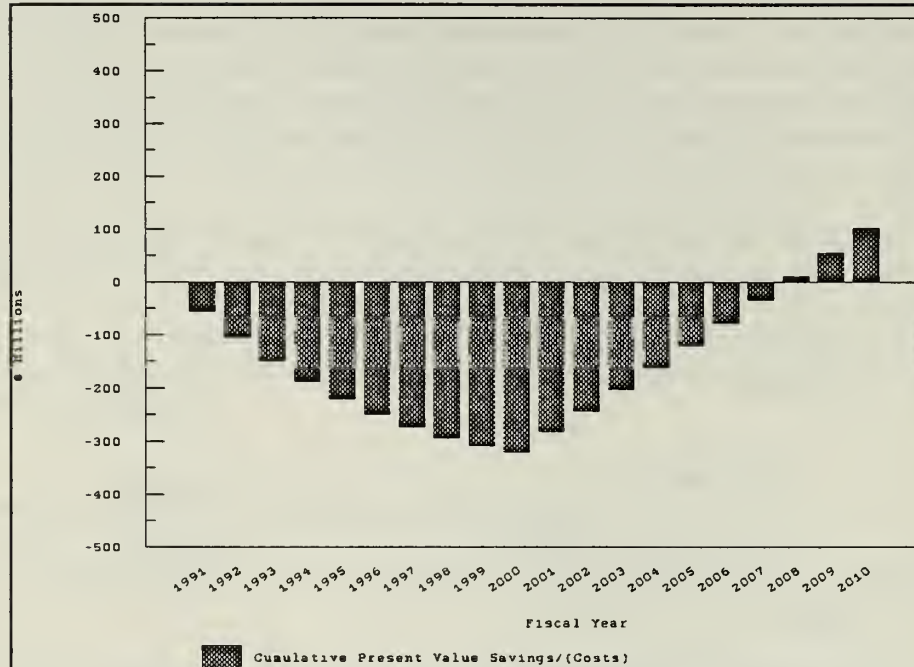
The estimated sources and uses of the proceeds of a forward funding bond issue are as follows:

<u>Sources:</u>	<u>Amounts</u> (\$000s)
Bond Proceeds	<u>\$634,700</u>
Total Sources of Cash	\$634,700
<u>Uses:</u>	
Retirement of MBTA Notes	\$305,000
Retirement of State Transit Notes	\$317,000
Estimated Cost of Issuance (two percent)	<u>\$ 12,700</u>
Total Uses of Cash	\$634,700

Issuance of bonds to immediately implement forward funding does not appear to be cost-effective. Since the forward funding bonds would simply replace the MBTA's current working capital borrowings, no interest cost savings would be realized for many years, as illustrated by Chart 3-5. The short-term MBTA and Commonwealth note liabilities related to the financing of MBTA operations bear interest at short-term, tax-exempt rates varying from six percent to seven percent. Assuming a 10-year, ensured forward funding bond issue, the all-in borrowing cost of the forward funding bonds would be significantly higher, probably in the area of 7.25 percent given market conditions at the time of this study. In fact, the bond issue debt service cost actually exceeds the interest expense eliminated due to the retirement of the MBTA and State notes. As a result, the forward funding bond issue, in the intermediate term, is more costly to the Commonwealth than the current financing approach. Since savings from elimination of the short-term borrowings would continue once the bond issue was paid in full, an interest savings would be achieved. Eventually, the State would break even on the financing. When these figures are computed on a present value basis, discounted to reflect the time value of money, the breakeven does not occur until 2008.

Cumulative Savings/(Costs) from Forward Funding

Chart 3-5



Incremental Forward Funding

As an alternative to issuance of bonds for the purpose of immediately implementing forward funding, the State could gradually move to forward funding by incrementally increasing its appropriations of MBTA operating costs. This incremental approach to forward funding conceivably could accomplish the Legislature's objectives of reducing the costs of MBTA working capital borrowings while avoiding a large, costly, and burdensome bond issue. However, these incremental increases in State appropriations would need to be funded from current revenues and not from borrowings, if any savings were to be captured immediately from incremental forward funding. Otherwise, if the State does not have current revenues from which to fund increased appropriations to the MBTA, the increased appropriations required to implement incremental forward funding would need to be borrowed by the Commonwealth. The financing costs associated with that new borrowing would more than offset any savings from a reduction in MBTA working capital borrowing. Accordingly, incremental implementation of forward funding would not save the Commonwealth money in the near term unless it can be funded from current revenues.

To accomplish incremental forward funding, the State would increase its operating assistance to the MBTA over the level of appropriations that would otherwise have been required under the current system. The excess appropriation amount would be paid to the MBTA currently and applied first to reduce the size of the MBTA's note borrowing

in the concurrent fiscal year. The Authority's annual note borrowings and interest on unfunded debt gradually would be reduced. Once the amount of excess appropriations had enabled the Authority to repay all its notes, then excess appropriations would be applied to reduce any Commonwealth notes issued to finance State advances to the MBTA. After all of these notes are retired, appropriations would be applied to the concurrent year's operations. In this way, the State's appropriations for MBTA operating costs gradually would be brought current and eventually "forward funded."

The Budgetary and Fiscal Consequences of Incremental Forward Funding

As Chart 3-6 illustrates, the incremental approach to forward funding would increase State appropriation requirements for MBTA Additional Contract Assistance above the levels which would otherwise have been required under the current State system for financing the MBTA. The Chart summarizes the incremental appropriations that would be required to bring the MBTA to a "forward funded" appropriation process in six years, or by FY1996. Under this scenario, Commonwealth appropriations for MBTA operating costs would be increased each year by 25 percent, equal to approximately three months of the MBTA's State and local subsidy requirement for the prior calendar year. These increased appropriation amounts would be applied to reduce the MBTA's working capital borrowings and related borrowings by the Commonwealth.

Fiscal Impacts of Incremental Forward Funding: FY1991 to FY1996

Chart 3-6

(\$ Millions)			
<u>Fiscal Year</u>	<u>Incremental Increase In State Appropriations</u>	<u>Savings From Reduction In Interest Costs¹</u>	<u>Net Increase/ (Decrease)</u>
1991	\$ 94.7	\$ --	\$94.7
1992	100.4	6.2	94.2
1993	106.3	14.0	92.3
1994	112.7	22.2	90.5
1995	121.4	35.8	85.6
1996	<u>86.5</u>	<u>45.6</u>	<u>40.9</u>
Total Through FY1996	\$622.0	\$123.8	\$498.2

¹ Includes reductions in MBTA interest on unfunded debt and on State debt issued to advance funds to the MBTA.

Impacts on State Appropriations for Additional Contract Assistance

Under this six-year incremental forward funding scenario, State appropriations for the MBTA during the period from FY1991 to FY1996, inclusive, would be \$622 million

higher than they would have been if the current system of retrospective appropriations was maintained, as Chart 3-6 indicates. This increase would be offset during that time period by approximately \$123.8 million in savings realized from the reduction of interest costs on MBTA and State notes paid off by the incremental appropriations. Overall, from FY1991 to FY1996, the net increase in State appropriations from incremental forward funding would be approximately \$498.2 million.

Impacts of Incremental Forward Funding on Cities and Towns

The implementation of incremental forward funding over a six year period, as described above, could have a variety of impacts on the size of the MBTA assessments charged to member municipalities, depending on whether and by how much the local assessments are adjusted upward in each year to reflect the State's incremental increase in its own appropriations for Additional Contract Assistance. If the MBTA assessments are increased incrementally each year in the same way as State appropriations, then the additional costs to member communities, in the form of annual, additional reductions in local aid paid by the State to MBTA district members, would be significant. From FY1991 to FY1996, for example, additional Cherry Sheet reductions equal to at least \$173.5 million would be required to fully reflect the incremental move to forward funding over a six year period.

Since these additional local aid reductions would adversely affect MBTA district member communities, the calculations in this study assume that the State would absorb any of the transition effects that incremental forward funding would have on MBTA member assessments. This assumption is consistent with past legislative proposals to implement forward funding through a large, one-time bond issue.

Other Effects of Incremental Forward Funding

The accounting and budgeting effects of incremental forward funding would be similar to those described previously in this chapter's general discussion of the financing effects of forward funding. Essentially, as it does now, the MBTA would maintain both GAAP accounting records, in order to meet the needs of the capital markets where its bonds and notes are sold, and modified cash basis records to meet the requirements of the appropriation process.

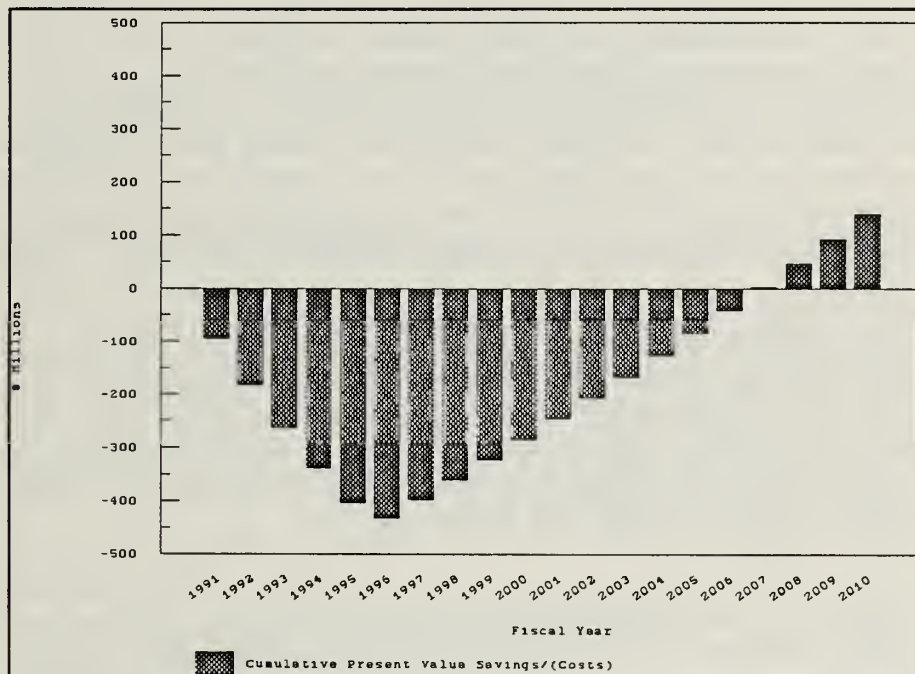
Chart 3-7 summarizes the overall net costs and benefits of this incremental approach to forward funding. It illustrates the scenario described above where Commonwealth appropriations for MBTA operating costs are increased each year by 25 percent, equal to three months of the prior calendar year's MBTA subsidy requirement. The appropriations are used by the MBTA to gradually reduce Authority note borrowings. All MBTA notes are retired by FY1995. Thereafter, the additional appropriations are applied to reduce Commonwealth notes issued to fund Authority operations in advance of appropriation. By FY1997 all State notes would be retired. The State's appropriations for the MBTA for FY1997 and thereafter would then be made on a current, "forward funded" basis. Based on the assumption that current State revenues, not borrowed funds, are used to finance the incremental increases in State appropriations, the MBTA would be forward funded by FY1997 and savings would begin to accrue from reduced borrowing

costs in that fiscal year. On a present value basis, the State would break even on the cost of incremental forward funding by FY2007.

It should be emphasized, as noted above, that incremental forward funding will only reduce the State's public transportation-related borrowings if the excess State appropriations described above are funded from current Commonwealth revenues, and not from additional State borrowings. If the State, due to its own deficits, simply borrows the funds, then no short-term savings would result from an increase in appropriations for additional assistance. The financing costs associated with the MBTA notes and the Commonwealth's transit note borrowings simply would be shifted to the Commonwealth's own operating fund borrowings in the form of increased State general fund deficit borrowing.

Cumulative Savings/(Cost) from Incremental Forward Funding

Chart 3-7



Summary of Fiscal Impacts of Forward Funding on the MBTA

Incremental implementation of forward funding over a six year period would have three primary effects on Authority finances:

- As with full implementation of forward funding in FY1991, incremental forward funding would require changes in the MBTA's accounting practices to ensure that both GAAP and modified cash accounting rules are followed with respect to the incremental adjustments;

- MBTA notes would be retired gradually over a four year period, FY1991 to FY1994, from the additional amounts appropriated, until no MBTA notes remained outstanding. As long as State allotments of Additional Contract Assistance appropriations were adequate in amount and timing to meet MBTA operating needs, no further Authority note borrowing would be required for operations; and
- As a result of the gradual retirement of MBTA notes, the MBTA operating budget line item for Interest on Unfunded Debt would be reduced in FY1991 through FY1994 and eliminated thereafter. Of course, unless the State raised sufficient revenues to fund the MBTA note retirements, the Commonwealth would have to borrow funds to retire the Authority's notes and the State would pay interest expenses comparable to those "saved" on the retirement of the MBTA notes.

Conclusions

- The Commonwealth's Additional Contract Assistance to the MBTA is funded once the size of the required State subsidy is known, but much of the Authority's spending is approved prospectively by the Legislature prior to being incurred. One major category of spending which is approved prospectively is all capital spending. It is first approved by the Legislature in the Commonwealth's periodic Transportation Bond legislation and then approved again each year in the form of debt service assistance.
- The savings or benefits of immediate forward funding to the Commonwealth are unclear. Absent an increase in available revenues which could provide additional appropriations to reduce MBTA borrowing, a shift to "forward funding" would not eliminate the MBTA's short-term borrowing costs, but simply would shift those borrowing costs in full to the State. Accordingly, without additional revenue, there would be no short-term interest cost savings from forward funding.
- The immediate shift to "forward funding" in FY1991, as contemplated by Chapter 653, would primarily affect State appropriation levels and cash requirements and would have an immediate and substantial effect on the State in both cases:
 - Cash out-flows would increase over \$600 million in the transition year,
 - Total State appropriations in the transition year would be \$969.1 million, more than two and one-half times higher than the amount that would be required under the current system, and
 - Forward funding also would require significant adjustments in the MBTA's bookkeeping.
- The State could not shift the transition costs of forward funding to the MBTA's member cities and towns without producing a sharp reduction in net local aid payments to members (approximately \$180 million).

- As contemplated in currently filed legislation (Senate Bill 1387), forward funding would forego nearly four percent growth in MBTA district member payments. This would happen because assessments would be held constant through the transition process, despite the growth allowed by current State law.
- The issuance of Commonwealth bonds to finance implementation of forward funding in FY1991 has its own costs compared to the current funding method:
 - Bonding will burden an already crowded and costly market for Commonwealth debt and at current interest rates will cost the State \$175 million more in debt service than the current short-term borrowings for FY1991 to FY1996, and
 - The State would not begin to accrue savings on a forward funding bond issue until 2008.
- As alternatives to immediate implementation of forward funding from current State revenues in FY1991, the State could consider:
 - Incrementally increasing its MBTA appropriations and thereby funding a gradual shift from retrospective to prospective funding of the Net Cost of Service.
- Incremental forward funding may be a way of accomplishing forward funding without the issuance of a single, large Commonwealth bond issue. If the State increased its annual appropriations for MBTA operating costs by 25 percent over the level required under the current funding system, then the MBTA notes and related Commonwealth short-term borrowings could be eliminated over a six-year period and the Authority would be forward funded by FY1997. Ideally, this incremental approach would be financed from current State revenues. Otherwise, incremental forward funding would involve a series of State borrowings whose debt service costs would exceed the reduction in the MBTA's working capital borrowing costs.
- If incremental forward funding could be funded from a current revenue stream, the State would break even by FY2007.

CHAPTER 4

Regional Assessment of MBTA Operating Costs in the Context of Proposition 2½

Introduction

This chapter identifies options for improving the current method for assessing MBTA operating costs within the region served by the Authority. Specifically, this chapter:

- Discusses the relevance of Proposition 2½ to assessment of MBTA costs upon cities and towns and examines the basic policy reasons for initially imposing such assessments;
- Evaluates the current method of assessing cities and towns and discusses the policy implications of possible changes to the assessment formula; and
- Explains what MBTA services are provided outside the current district, explores the ways these services are subsidized, and discusses the potential for an expanded district.

Background

Chapter 653 of the Acts of 1989 directed that the MBTA study the following issues concerning local assessments:

- The relative impact of MBTA assessments on individual municipalities. The 78 cities and towns in eastern Massachusetts that are members of the MBTA district pay a significant part of the Authority's operating cost. For FY1989, for example, they will be assessed a total of \$115.7 million, which amounts to approximately one-fifth of the MBTA's total operating subsidy for that period. The actual distribution mechanism for so large an assessment matters to individual municipalities; and
- The possible expansion of the member district. The local share of the MBTA subsidy has decreased substantially, and under current law, it will continue to do so. This results in an increasing State share, and poses a significant problem for the Commonwealth, particularly during the current period of State budget deficits.

Proposition 2½, and the underlying policy reasons for requiring the greater Boston metropolitan area to assume responsibility for financing some portion of the MBTA's budget, are the two major factors that affect both the total amount of the local assessment and also the method for distributing it among cities and towns.

The Effect of Proposition 2½ on MBTA Assessments

Proposition 2½ is best known for the limits it imposed on the growth in local property taxes. Its two major provisions are that:

- No city or town may have a property tax rate that exceeds two and one-half percent of assessed value. This provision had the greatest impact shortly after Proposition 2½ was passed, because it forced many cities and towns to cut their property taxes significantly; and
- A municipality's annual property tax levy, which is the total amount of tax revenue actually collected, cannot grow by more than two and one-half percent each year (a rate significantly below annual inflation) except to the extent that there is growth in the property tax base through new construction and major improvements.

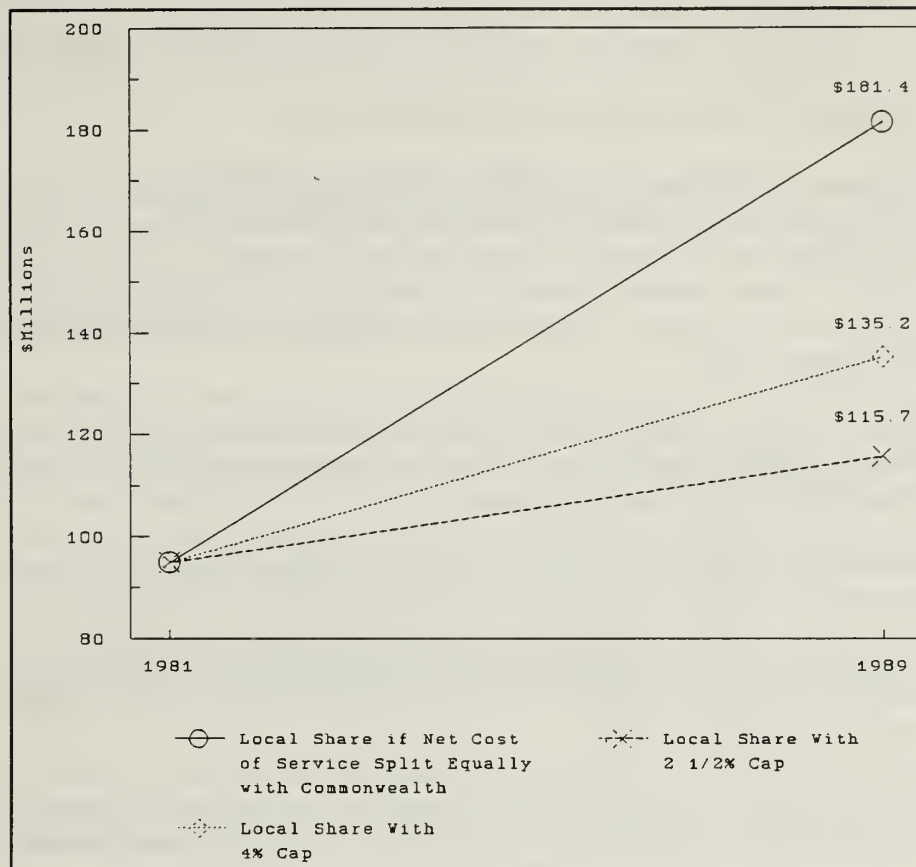
Proposition 2½ also provided, in part, that assessments on cities or towns by any governmental entity could not grow by more than four percent annually. Chapter 581 of the Acts of 1980 applied that limitation to the MBTA beginning with its FY1981 assessments. Shortly thereafter, Chapter 782 of the Acts of 1981 reduced the permissible annual increase in municipal assessments from four percent to two and one-half percent. Without this Legislative amendment, cities and towns would have paid nearly \$100 million more in local assessments since 1981. In FY1991, this would mean an additional \$20 million in MBTA assessments paid by cities and towns.

Because none of these three statutes repealed or amended the existing MBTA assessment formula and because the effect of inflation itself is to increase annual costs by more than two and one-half percent, the result under current law is that aggregate assessments in any given calendar year can be only two and one-half percent more than the total for the previous year. Within this limitation, a statutory formula provides for how the aggregate amount is distributed among the 78 member communities.

MBTA assessments, like all expenditures in Massachusetts that are paid from local property tax receipts, have been materially changed by the constraints of Proposition 2½. With allowed annual increases in property tax collections capped by law at a level below annual inflation, any increase in MBTA assessments as a whole or for a particular municipality reduces the financial resources available for other local services.

Effect of Proposition 2½ Cap on Local Assessments

Chart 4-1



Proposition 2½, as amended, has two important effects upon the State policy of assessing MBTA operating costs upon the Authority's members. First, it means that the allocation of total annual assessments among the 78 member municipalities will continue to assume increasing local importance. Representatives of some MBTA member communities understandably view changes in the current assessment formula as a possible way to solve some of the thorny financial problems confronted by their own city or town.

Second, in the absence of new sources of revenue, changes in the aggregate amount of annual assessments will not ultimately reduce the State's steadily growing responsibility for defraying the costs of MBTA operations. Requiring cities and towns to pay more to the MBTA from property tax revenues would require them to eliminate spending for other local services, unless the Commonwealth assumes the added assessed costs through increased local aid. But that strategy merely would substitute State aid to cities and towns for State payments to the MBTA; it would not reduce the State's growing financial share of the cost of MBTA operations. Moreover, if the State Auditor were to rule that any increase in the local assessment of MBTA costs above two and one-half percent is a State mandate, another provision of Proposition 2½ would require the State to fund the increase through additional local aid.

It is also important to acknowledge that, although the local share of MBTA costs has been declining relative to the State subsidy, the respective local and State burden expressed as a percent of overall spending is roughly equal. In FY1988, MBTA assessments represented 2.6 percent of municipal spending. In the same year, the State subsidy for the MBTA equaled 2.1 percent of total State spending.

Why Use Local or Regional Funds for MBTA Costs?

Notwithstanding the constraints imposed by Proposition 2½, there are straightforward reasons why the operating costs of a public transportation system should be paid, at least in part, by residents of the region served by the system whether or not they actually use mass transit. Those reasons provide the backdrop for evaluating current MBTA assessment policy, since current assessments are paid from the property taxes of MBTA users and nonusers alike.

Riders are the direct beneficiaries of mass transit. However, many others indirectly benefit from public transportation. It is these indirect benefits that justify partially funding the MBTA from local tax revenues.

Increased economic activity and higher property values are the major indirect benefits of public transit.

- Property owners and business people benefit when the MBTA provides transportation to a location where they own commercial property or they own or work in a business;
- Businesses rely on the Authority to bring them many of their employees and customers. This direct economic stimulus also means that commercial property is more valuable when it is served by the MBTA; and
- Property owners also benefit when the MBTA makes transportation available from a location where they own or live in residential property. As a result, residential property becomes more valuable when it is served by the MBTA.

These benefits may accrue over a fairly large geographic area because many public transit users first drive a significant distance to a train station. Thus these localized indirect benefits consist of greater economic activity and resulting increases in property value. Prior studies analyzing economic benefits indicate that public transportation increases property values up to ten times, depending upon the proximity of the property to a transit station.¹

¹ See, for example, The Economical Social Impact of Investments in Public Transit (D.C. Heath and Company, 1973) (properties along subway route increased as much as ten times their original value) and Metrorail Impacts on Washington Area Land Values (U.S. House of Representatives, Subcommittee on the City, Committee on Banking, Finance, and Urban Affairs, 1981) (minimum of \$2 billion increase in land values attributable to opening of the Metro, including 500 percent increases in value in certain areas).

Other indirect benefits accrue throughout the Greater Boston area, in particular, and the entire State generally. Everyone benefits when citizens use public transportation because our roads are less crowded with private vehicles. As a result, our roads last longer, our air is less polluted, and we use less gasoline than we otherwise would. In short, the positive impact of public transportation on economic activity, property values, and the environment is the justification for paying a percentage of the MBTA's expenses from taxes and especially from taxes raised within the MBTA's district.

Distributing Funding Responsibility Among Current MBTA Member Municipalities

The Current Assessment Formula

The assessment formula starts by calculating the Net Cost of Service for a calendar year. As its name suggests, the Net Cost of Service is the difference between all income received by the MBTA and all current expenses incurred by the Authority. The MBTA's current expenses include both current operating expenses and current debt service payments, but not capital spending. Originally, the entire Net Cost Of Service was to be assessed on the member municipalities. Over time, however, the State assumed a share. As explained above, today the annual increase in the amount of MBTA costs assessed to cities and towns has been capped, so that the total assessment for a given year is simply an amount two and one-half percent greater than the total amount assessed in the prior year.

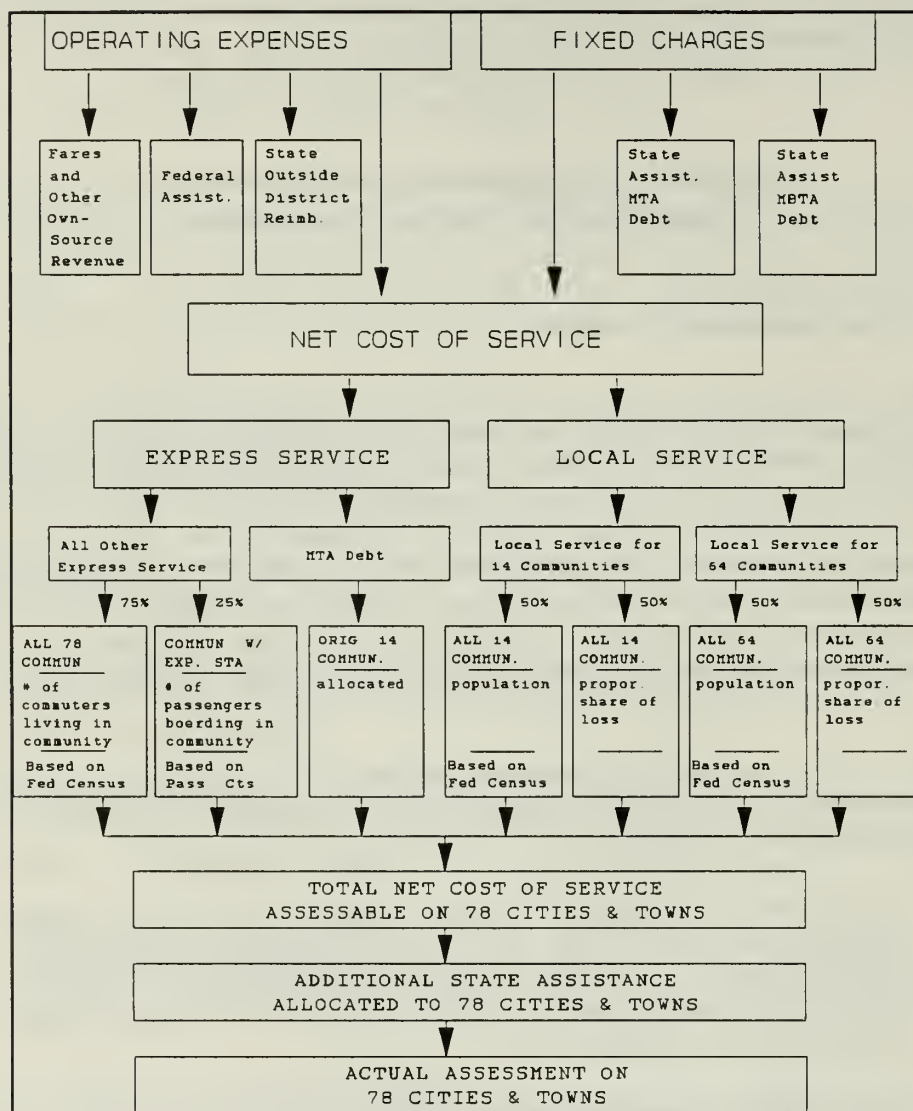
As the chart on the next page describes, the next step in the formula is to divide the Net Cost of Service into portions attributable either to express or local service, using the following definitions:

- "Express service" is defined as all mass transportation services provided over controlled rights-of-way, such as rapid transit and commuter rail service. Because of the controlled rights-of-way element of its definition, express service does not include express bus service or streetcar service that operates on local streets; and
- "Local service" is defined as all mass transportation services other than express service. It thus includes services on buses, including express buses, as well as service on trackless trolleys, streetcars, or light rail vehicles operating on local streets. The RIDE is also considered local service.

Assessment of each of the identified portions of the Net Cost of Service is then done through separate formulas.

Paying for MBTA Total Cost of Service

Chart 4-2



Assessing Costs of Express Service

The assessed cost of express service is in turn divided into two parts, each distributed in a different fashion.²

² In addition, any debt service on outstanding obligations of the MBTA's predecessor, the MTA, that is not paid by the Commonwealth is assessed separately on the fourteen cities and towns that were members of the MTA. Because it amounts to a relatively negligible amount of money and is slowly disappearing altogether, assessment of outstanding MTA debt can be ignored for the purpose of analyzing current MBTA assessment practices.

Three-fourths of the express cost is allocated among the 78 members based on the proportion of "commuters" living in each municipality compared to the total number of commuters living within the MBTA district. A commuter is defined as someone who lives in a member city or town and who works in another municipality. Neither a person's destination nor the mode of travel they use to get to it will affect their status as a commuter for the purposes of this formula. Necessary data regarding numbers and location of commuters is taken from the most recent federal census. This distribution according to share of commuters reflects the notion that commuters throughout the region enjoy generalized benefits when other commuters leave the roads and instead travel on physically separate modes of transportation.

The statute provides that, notwithstanding the underlying distribution according to share of commuters, Boston shall pay no less than 30 percent of this three-fourths of assessed express costs. This provision is intended to account for the fact that intra-city commuters traveling within Boston are not counted in the statutory definition of "commuter" as well as to reflect the fact that downtown Boston is the destination of a large percent of express service. This factor increases Boston's assessment above what it would otherwise be. Some would argue that it fails to account for the fact that residents from suburban communities are supported by public transit access to jobs in Boston.³ However, since the bulk of MBTA services are geared to providing mass transportation to and from Boston, residents of that city enjoy most of the benefits of quieter streets and cleaner air from the substitution each day of mass transit for private vehicles. Boston's minimum share of this portion of express costs is intended to reflect the concept that particular benefits that accrue to its citizens and businesses.

The remaining one-fourth of the express cost is allocated only among those member municipalities that have one or more express service stations built before July 1, 1973. It is distributed based on the proportion of people boarding at such express stations within each municipality compared to the total number of people boarding at all such express stations. Counts of people boarding express service generally captures both ends of a round trip made by mass transit. This distribution thereby reflects the notion that property is more valuable when it is near public transit services; in other words it reflects the localized indirect benefits from the availability of express service. When viewed in isolation it may appear to do so only imperfectly, because it does not directly account for express service riders who board the MBTA in one city or town but live in another. Presumably this effect is only significant at outlying express stations with large parking facilities and bus routes feeding into it from neighboring municipalities. An example of this, illustrated in Chart 4-3, is the Riverside Green Line station in Newton. However, the overall formula attempts to control for this; since such riders are "commuters" under the express service formula, the benefit to their home town from the use of nearby express stations would be reflected in that community's share of the commuter-based distribution, described above.

³ House 4027 would change this feature of the assessment formula and eliminate the mandatory 30 percent of three-fourths of express costs for Boston.

**Riverside Station
Place of Trip Origin
July 1989 Survey**

Chart 4-3

	<u>Percent of Passengers</u>
Framingham	6.50%
Natick	5.29
Needham	4.25
Sudbury	3.44
Waltham	5.45
Wayland	6.65
Wellesley	12.56
Weston	7.99
All Others	<u>28.92</u>
Subtotal	81.05%
Newton	18.95%

Assessing Costs of Local Service

The MBTA district is divided into two separate regions for the purpose of assessing local service costs. One region, the so-called "14 cities and towns," includes Boston and its immediate suburbs that had been members of the MTA before 1964. The other, the so-called "64 cities and towns," includes the other municipalities that joined the transit district when the MBTA was created in 1964.

The first step in allocating local costs is to calculate the "net loss" for routes that operate within a given city or town. The net losses for each city are then aggregated for the 14 cities and towns and for the sixty four cities and towns.

The aggregate cost for each region is then allocated to the cities and towns according to the formulas. One half of the local cost is allocated based on the proportion of the population in each municipality compared to the total population of the region. This distribution of local service costs according to share of population is analogous to the distribution according to share of commuters under the formula for assessing express service costs. It reflects the generalized indirect benefits that accrue from the existence of a system of local bus routes.

The other half is allocated based on the proportion of the net loss on all routes within each municipality compared to the net loss on all routes within the region. The MBTA must estimate a "net loss" for each route, which approximates the difference between the revenues from the route in a particular city or town and the cost of providing services on the portion of the route within the city or town. Unlike the assessment of express costs in proportion to the geographic pattern of usage (measured by counts of people boarding trains at particular express stations), this distribution based on net loss does not reflect

the localized indirect benefits of MBTA service. Rather, it attempts to allocate net costs to the actual place they were incurred.

Implementing the Current Formula

The current assessment formula requires detailed data collection to implement. Costs must be allocated by community, boarding counts taken at almost every station, and revenue tracked by source. One of the findings of a recent study prepared by the MBTA Advisory Board⁴ was that data collection was insufficient to perfectly implement the formula. In today's climate of scarce resources, the MBTA has been reluctant to dedicate additional funds to add more precision to assessment data.

Future capital improvements in fare collection equipment combined with improvements in automated financial support currently underway at the MBTA will improve data collection and manipulation. Procurement of new fare collection equipment, similar to the distance-based ticketing equipment used in Washington, D.C.'s transit system, would allow much more accurate tracking of not only ridership counts but destination information, peak and off-peak usage and use of fare subsidies. The advantages of more accuracy in this data go beyond the assessment formula. MBTA service planning and monitoring would also greatly benefit and the fare collection system would better accommodate changes. On the other hand, new equipment would be costly and would require station redesign.

Possible Changes to the Current Assessment Formula

The MBTA Advisory Board study on assessments suggests possible changes to the existing formula. The policy implications of several of those changes are discussed below. In considering these or other proposed changes in the current assessment formula, several potential difficulties should be taken into account.

In today's environment of constrained resources, changes in the amount of costs assessed on communities would exacerbate the financial difficulties many cities and towns are currently facing. This practical problem is complicated by the fact that there may be no perfect way to allocate the current MBTA assessments. Changes to the formula could make it more equitable but would come at a time when few cities and towns are able to handle unanticipated increases in costs.

Notwithstanding these difficulties, several adjustments to the current assessment formula are worth reviewing to eliminate possible distortions. Three examples of these sorts of changes are examined. It is important to point out that the following analysis approaches various issues in isolation. If options were combined together, they would have a balancing effect.

⁴ MBTA Assessment Formula; An Evaluation and Recommendation, Volume IV (MBTA Advisory Board, 1989).

First, the allocation of the one-fourth of assessed express service costs could be based on all use of express stations, and not restricted to people boarding at stations that existed before July 1, 1973. The exclusion of post-1973 stations from that portion of the formula has an impact upon the distribution of assessments. It permits municipalities to enjoy economic benefits -- including new growth in its property tax base that results in added tax revenue under Proposition 2½ -- from the opening of new stations without bearing a proportionate share of the added MBTA cost associated with those new stations. The exclusion of post-1973 stations currently means that rapid transit stations on the Malden end of the Orange line and on the Red Line extensions, at both the Cambridge/Somerville and the Braintree/Quincy ends of that line, are not accounted for when express costs are allocated based on boarding counts.

Impact on Selected Cities and Towns of Using Counts From All Express Stations

Chart 4-4

(lists only communities with increases or decreases greater than one percent)	
<u>Town</u>	<u>Percent Change in Assessment</u>
Boston	(1.9%)
Braintree	20.2%
Cambridge	4.5%
Malden	11.0%
Medford	4.3%
Quincy	1.1%
Somerville	4.3%

In considering such a change, it is well to recall the original reason for the enactment of the post-1973 station exclusion. Hosting a major transit station can be considered a nuisance because of concerns about traffic from surrounding communities. Some, if not all, of the transit stations sited after 1973 might never have been built but for this "hold harmless" provision.

On the other hand, this provision has the practical impact of an unfair assessment on those cities which had major regional stations prior to 1973.

Consideration of possible changes in this provision is an illustration of the dilemma created when equity and pragmatism collide.

Second, the definition of "express service" could be altered to include express bus service. Service on express buses is functionally similar, indeed often quicker, than service on rapid transit and other rail lines. It therefore produces the same sort of indirect benefits as those rail lines. Assessed costs that are attributable to express buses could be treated like any other express service, rather than like local bus service.

Finally, the allocation of the one-fourth of assessed express service costs could be based upon the municipality in which express service riders start their trip rather than on

the city or town in which they board express services. This change would mitigate the impact of the exclusion of post-1973 stations from the assessment formula. However, this change would make the formula significantly more complicated and more expensive to calculate. The MBTA would have to pay for periodic surveys to determine where mass transit trips originate, rather than simply rely on boarding counts taken at express stations. Chart 4-5 shows the impact on certain cities and towns that would be significantly affected if this change were implemented at major regional stations.

Impact on Selected Cities and Towns of Changing the Definition of Express Rider

Chart 4-5

(lists only communities with increases or decreases greater than one percent)	
<u>Town</u>	<u>Percent Change in Assessment</u>
Milton	1.4%
Newton	(1.0%)
Quincy	(2.0%)
Weston	1.2%

It is important to underscore that these three examples -- as would be the case with most suggested changes -- are interrelated. Enacting all three -- or any package of changes -- would have a combined effect quite different from the individual changes illustrated in Charts 4-4 and 4-5.

Since so many of these issues are interrelated, the MBTA Advisory Board took a more comprehensive approach to modifications to the existing process in its study on the assessment formula. Six alternative formulas were developed and tested. These variations separately allocated the components of express services and modified the boarding count data used in the formula. Efforts were also made to more accurately allocate offsetting State and federal subsidies by community to derive a more precise cost by community. The net effect of these alternatives is to control in a more detailed way for the examples of distortions explained above.

These changes are, from the State perspective, zero sum shifts among municipalities with no impact upon the pressure on the State share of funding.

Non-Formula Changes That Would Affect Assessments

The changes discussed above would alter the formula used to allocate assessments among current MBTA member municipalities. There are two additional changes that would affect the costs actually borne by MBTA members which could relieve the pressure on the State share of funding. Once again, these changes are not mutually exclusive.

First, the Commonwealth could stop reimbursing the MBTA members that have no direct service within their boundaries. This practice was begun during State FY1983 when the Town of Maynard, which was waging a protracted and eventually successful fight to withdraw from the MBTA altogether, convinced the Legislature to reimburse it for its share of MBTA assessments on the grounds that no MBTA routes ran within its borders. (The appropriation for this purpose was included within the final State supplemental budget for FY1982.) Beginning in FY1984, the twenty-three other so-called "non-served" cities and towns were given similar reimbursements through the State budget.

According to the study prepared by the MBTA Advisory Board, when the district was expanded from 14 to 78, there was a promise yet to be fulfilled that express service would break even. Consequently, communities with no local service, anticipated lower assessments than they have seen over time.⁵

In subsequent years the budgetary line-item through which these reimbursements were made was also used to send extra local aid to Arlington and Everett, which are both part of the fourteen cities and towns that constitute the inner core of direct MBTA service. Beginning in the State's FY1988 operating budget, the almost five million dollars from this line-item were consolidated into the large "additional assistance" appropriation of direct local aid. Subsequent local aid cuts have reduced some communities' "additional assistance" below the MBTA reimbursement amount. However, certain of the "non-served" MBTA members continue to be reimbursed for a large portion of their MBTA assessments. But many residents of these communities are frequent users of public transit, as the following chart shows.

⁵ Op. Cit, p.4.

Communities Whose MBTA Assessment is Partially Reimbursed

Chart 4-6

<u>COMMUNITY</u>	<u>REIMBURSEMENT</u>	<u>PERCENT OF ASSESSMENT REIMBURSED¹</u>	<u>PERCENT OF TOTAL COMMUTERS USING PUBLIC TRANSIT²</u>
Arlington	\$497,358	21.0%	20.6%
Ashland	160,433	62.7	1.9
Cohasset	105,049	75.9	8.6
Dover	80,092	75.8	8.5
Duxbury	118,706	53.4	7.0
Everett	401,697	24.6	20.1
Hanover	170,556	80.1	6.2
Hull	159,389	72.8	6.9
Lynnfield	194,657	77.6	2.5
Marshfield	255,757	60.9	4.5
Medfield	146,469	69.5	4.1
Middleton	67,711	70.7	0.9
Millis	94,774	59.9	3.5
North Reading	216,237	86.3	2.5
Norwell	147,191	70.7	5.3
Peabody	793,920	89.2	2.3
Pembroke ³	205,191	69.4	3.8
Rockland	246,166	85.0	2.4
Scituate	263,369	79.6	4.9
Sherborn	59,860	65.0	3.2
Stoneham	386,115	86.7	4.4
Sudbury	223,336	77.7	2.6
Topsfield	88,769	74.6	1.7
Wayland	229,258	81.0	2.7
Wenham	64,580	92.2	3.8
<hr/>			
Total	\$5,376,640		
¹ Reimbursement as percent of 1988 Assessment. The assessments for MBTA CY1988 costs are actually assessed against FY1990 local aid for cities and towns.			
² Based on 1980 U.S. Census data.			
³ Local aid cuts have reduced this community's "additional assistance" below the MBTA reimbursement level.			

The practice, therefore, appears to be inconsistent with the policy underlying the imposition of assessments in the first place. The assessments exist because residents within the MBTA district benefit generally from the availability and use of mass transit even if they themselves do not ride mass transit vehicles. Commuters from towns with no direct service do in fact use the MBTA by driving to a nearby town with a commuter rail or rapid transit station. The MBTA has invested over \$50 million since 1982 to build 5,600 new parking spaces, many of which are used by commuters from towns which are reimbursed for their assessments.

Second, it has also been suggested that the Legislature could loosen or eliminate the current two and one-half percent cap on annual increases in total MBTA assessments. For example, the Senate Committee on Ways and Means had recommended, as part of its FY1990 budget proposal, that the State and the MBTA members evenly split future increases in the MBTA net cost of service.

Without new revenues, however, little flexibility for increasing MBTA assessments exists. Under the Proposition 2½ constraints on property tax levies, such proposals are equivalent to targeted reductions in State aid to MBTA members. Unless cities or towns are allowed to expand their revenues to pay for faster growth in their MBTA assessments, increases in those assessments will merely move the perceived strain on the State from its share of MBTA operating costs to its payment of local aid.

Payments from Beyond the MBTA District?

Services Provided Outside the Current MBTA District

The Authority provides many transportation services outside of the MBTA district. The MBTA contracts for commuter rail service that extends through many cities and towns that are not MBTA members. Service out of South Station extends beyond the MBTA district to Mansfield and Attleboro, on the Providence line, as well as to Stoughton. Cities and towns served out of South Station are:

- Attleboro
- Franklin
- Mansfield
- Stoughton

Service out of North Station currently extends beyond the current district on various lines to:

- Acton
- Andover
- Ayer
- Billerica
- Fitchburg
- Gloucester
- Haverhill
- Ipswich
- Lawrence
- Leominster
- Littleton
- Lowell
- Rockport
- Shirley

Further expansion of commuter rail service as far north as Newburyport, as far south as New Bedford and Fall River, and as far west as Worcester is also in the planning stages. All of the municipalities currently receiving commuter rail service are members of Regional Transit Authorities (RTAs) except Franklin.

The MBTA also subsidizes private commuter bus routes that provide feeder service connecting RTA districts to existing MBTA services or to other destinations within the MBTA district. All service under this program either originates or terminates outside of the MBTA district.

Current System of State Subsidies

The Commonwealth reimburses the MBTA for the net cost of commuter rail services provided outside of the MBTA district. For accounting purposes, the operating cost of these commuter rail services is allocated to the RTAs and the town of Franklin in which commuter rail stations are located. This allocation apportions the cost of the commuter rail system, and is not an attempt to determine the marginal cost of providing commuter rail service to the RTAs. Further, this allocation does not include the costs of debt service on capital improvements. Fares and available federal operating assistance are then deducted, and the balance is paid from the State operating budget. Neither the RTA nor the individual city or town in which these express stations are located is liable for the benefits they receive from the availability of commuter rail services.

For FY1984 through FY1987, State commuter rail assistance for services provided outside the district was provided on a current basis. In FY1988, the subsidy was provided prospectively for only six months in order to generate savings for the State. In FY1990 the timing was shifted another six months, so that State spending in one fiscal year now pays for commuter rail services provided outside the district during the prior fiscal year. The annual cost to the State for commuter rail services outside the district is now roughly \$11 million.

The current method of allocating commuter rail costs outside the district does not adequately account for the extensive capital investment made in the commuter rail system over the past decade. Nor does the existing allocation attempt to assess the considerable economic benefit provided by this investment in the same way that the district assessment formula does.

On the other hand, this allocation represents the full operating subsidy of commuter rail service outside the district. Current practice has municipalities paying approximately 35 percent of the MBTA subsidy. This means that a reasonable range of the potential costs for assessment would be \$3 to \$11 million.

The Commonwealth also pays the public subsidy for the Inter-District Private Carrier Bus services provided under contract to the MBTA. The payment is initially made by the MBTA, but is reimbursed by the State. The annual cost to the State to provide these services is now roughly two million dollars per year.

Neither the commuter rail services nor the subsidized private bus services should be confused with the local public transportation provided throughout the State by the RTAs themselves. Each RTA is an independent organization that provides a local bus system in its own district. Total RTA ridership is roughly 40 million passengers annually. The MBTA is not involved in operating, procuring, or paying for any of the local services currently provided by RTAs. The cost of these regional systems is paid in part from fares and assessments on the cities or towns in the RTA district which are limited by Proposition 2½. In addition, the Commonwealth subsidizes each RTA by paying between 50 and 75 percent of its net cost of service each year. The annual cost to the Commonwealth of this subsidy is now roughly \$23.7 million per year.

Options for Increasing Local Payment of Costs Incurred Outside the District

In Chapter 653, the Legislature expressed interest in collecting charges from all "communities currently serviced" by the MBTA but outside the current MBTA district. An important threshold question is how to define that group of non-member cities or towns. The Legislature clearly had in mind at least those municipalities which directly receive services provided by the Authority. As explained above, however, residents and businesses in other communities in the greater Boston metropolitan area that do not receive any such direct services also benefit from the availability of public transportation. For example, a 1988 report produced by the Central Transportation Planning Staff for the MBTA Advisory Board concluded that there are 13 communities outside the district from which more than half of the employed residents commute to cities and towns within the district.⁶ The study considered these communities as part of the MBTA service area. Six of these communities do not receive direct service from the MBTA. Any proposal either to increase the size of the MBTA district or to levy some other sort of municipal charge or assessment to help fund MBTA operating costs must, therefore, resolve difficult questions in determining the cities or towns that would be affected.

Non-MBTA Communities Where More Than Half of the Workforce Works in the MBTA District

Chart 4-7

Abington ^{1,2}	Hanson ¹
Acton ²	Holliston ¹
Avon ^{1,2}	Hopkinton
Billerica ²	Medway
Boxford ²	Southborough
Carlisle ¹	Stoughton ²
Essex ^{1,2}	

¹ Communities that do not currently receive direct service.

² Communities currently members of an RTA.

The Legislature could implement contributions to the MBTA from municipalities outside the current district in two basic ways. First, it could redefine the MBTA district to include all cities and towns benefiting from MBTA services. In doing so it would be logical to loosen the annual cap on increases in total assessments to reflect the growth in services to contributing municipalities. If those changes were made, the new MBTA members would begin to be assessed for a portion of the total assessed Net Cost of Service. Alternatively, the Legislature could calculate special assessments on cities or towns outside of the MBTA district that nonetheless benefit from MBTA services. Under this approach the outlying service beneficiaries would only be assessed for their share of services provided in their area, and not for a share of all MBTA costs. Since MBTA

⁶ Future MBTA Ridership, Revenue, and Costs, Volume I (MBTA Advisory Board, 1988).

members pay only part of the net cost of services within the Authority's district, it may not be fair to non-member cities and towns to assess the full net cost of services provided by the MBTA in their area.

Both of these approaches would affect all municipalities benefiting from MBTA services, and not merely those within which the services happen to be located. As commuter rail and feeder bus services are offered further from Boston, riders tend to be willing to drive further to the nearest bus or train station. These bus and train lines therefore benefit all the communities within a reasonable drive. Any expansion of MBTA membership or determination of special out-of-district assessments should affect all such communities.

Absent other changes, either manner of implementing contributions from out-of-district cities or towns would continue the dependence of the MBTA's local assessments upon property tax receipts. Thus either of these innovations would be subject to the stringent limitations of Proposition 2½. Though they would expand the ranks of municipalities contributing to the support of a regional mass transportation system, they would not broaden the MBTA's financial base. So long as Proposition 2½ as a practical matter forces most localities to rely on State local aid for expansion of municipal budgets, this change in MBTA funding would only shift, not relieve, the pressure on the State budget. Furthermore, under current law, charges on out-of-district municipalities could not grow by more than two and one-half percent each year. Though such charges could be significant in the aggregate, they would be yet another capped revenue source that would grow much more slowly than MBTA costs.

Finally, these new charges on additional communities would occur at a time of no flexibility in municipal budgets as local aid is cut. Without a new source of revenue, the existing subsidies for RTA service would be placed in jeopardy along with other essential services provided by the affected communities.

Conclusions

The MBTA assessment formula is complex and it is easy to get lost in that complexity. The most important points to remember about local assessments are:

- The assessment formula, as originally enacted, was basically fair. The cumulative effect of changes to the formula since 1964, as well as changes in operating conditions at the MBTA during the same period, have distorted the formula's original balance;
- Three examples of inequities raised by the Advisory Board report on assessments have been examined. That report addresses, in a depth beyond the scope of this study, the complex issue of re-balancing the assessment formula;
- Proposed changes should be balanced against the original rationale for the current workings of the formula;

- From the State's point of view, changing the assessment formula is a zero sum game. There would be no shift in costs from the State to the cities and towns;
- The local share, while declining as a percent of MBTA costs, represents a percent of total municipal spending commensurate with the percent of total State spending on the MBTA;
- So long as local assessments are paid from Proposition 2½-limited property tax receipts and are capped by Chapter 782, State law ensures that the cities and towns will continue to pay a declining share of the MBTA's total expenses;
- To the extent that communities' local aid has not already been cut, there is little rationale for continuing to reimburse those communities without direct service, especially in light of the major MBTA investment in park and ride facilities and the data which shows the use of service by residents of those communities;
- Expanding the district could shift from \$3 to \$11 million from the State to cities and towns. However, the existing system of Regional Transit Authorities as well as constraints on local revenues present significant barriers to district expansion; and
- Current local revenue sources cannot support substantial increases. Any increase in assessments -- either within or outside the existing MBTA district -- should not ignore this reality.

CHAPTER 5

Fares and Other MBTA Revenue

No transit system covers all of its expenses through fares and other own source income. The purpose of this chapter is to examine the extent to which fares can (and should) cover operating expenses and to outline potential changes in fares and other income that can alleviate the State's growing share of MBTA costs. Specifically, this chapter:

- Compares MBTA fares to those of other systems;
- Discusses the goals of the MBTA's fare policy;
- Reviews the MBTA's 1980s experience with fare changes;
- Examines the MBTA's fare recovery ratio;
- Discusses discount fares for the elderly, students, and persons with disabilities;
- Discusses the possibility of more frequent, small fare increases;
- Quantifies the revenue impact of future fare increases; and
- Examines the MBTA's historical performance and current initiatives regarding other sources of revenue.

Comparing MBTA Fares to Those of Other Systems

Comparing fares among transit systems is an inexact science. While it is fairly easy to compare basic bus and subway fares, such comparisons are not very useful. Some transit systems allow free transfers between modes, while others do not. Some charge flat rates, others use zone fares, and still others charge point-to-point. Some systems encourage the use of monthly passes that offer unlimited rides for a fixed price. And while virtually all systems offer discounts for senior citizens, students, and passengers with disabilities, the amount of those discounts vary widely.

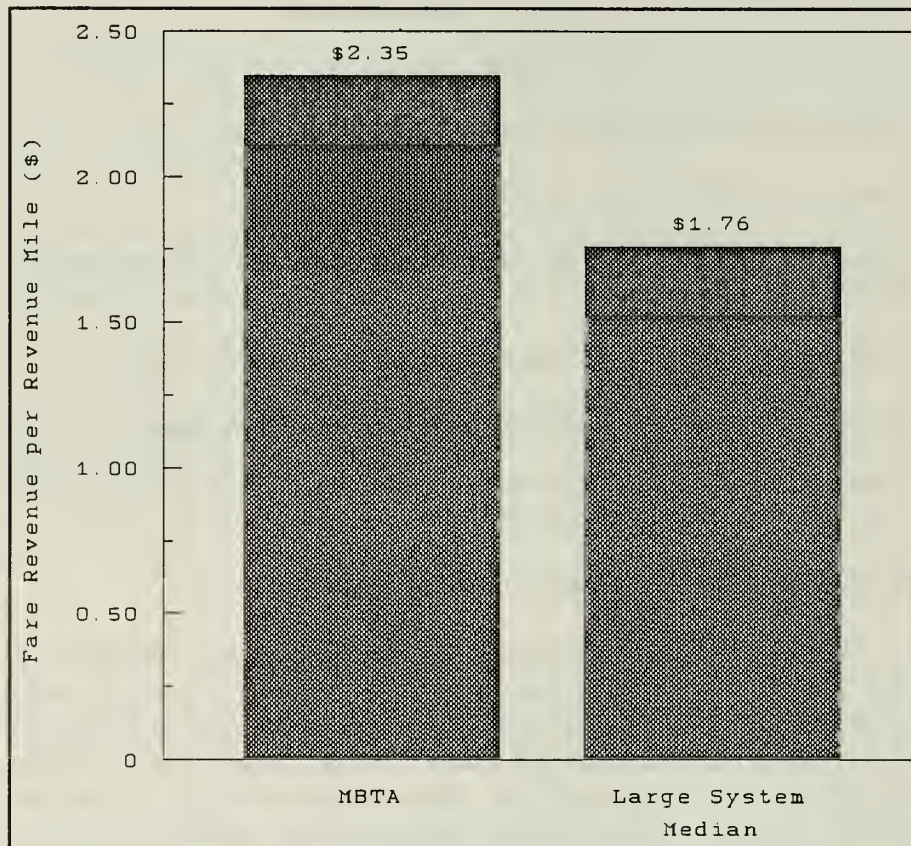
Despite these obstacles, it is possible to make some general comparisons. Perhaps the most useful such comparison is fare revenue per revenue mile. This measure is derived by dividing total annual fares by total annual revenue miles. Because it is a comprehensive measure -- it totals all fares collected by all modes -- it accounts for the many variations in transit pricing and ridership, and produces a single standard of comparison.

In 1988, the MBTA collected \$2.35 per mile of service, significantly above the large transit system median of \$1.76. At first glance, this seems surprising, given that the MBTA bus fare (50¢) and subway fare (75¢; 60¢ in 1988) are modest. However, unlike most other systems, the MBTA does not allow free transfers between modes, so the cost

of a two-seat trip is very close to the industry average.

The fact that the MBTA carries more passengers per mile than any other large system in the country also contributes to the higher than average revenue per mile. This means that MBTA service is relatively more productive than other systems. Additionally, Boston and its immediate suburbs are more compact than most other urban areas so that rides tend to be shorter. These facts increase relative fare revenue per mile, even though single trip fares remain low.

MBTA Fare Revenue Per Mile is Higher Than Average
Chart 5-1



Fare Policy Goals

Fare policy is shaped by two basic questions:

- What amount of total expenses should riders cover, given the significant economic, social, and environmental benefits that accrue to all residents of the transit system's area; and
- How should the relative burden of fare levels and proposed fare increases be distributed across different categories of riders (daily suburban commuters, low-income riders, the elderly, and persons with disabilities).

Transit system fares are designed to balance two conflicting goals, maximizing revenue and maximizing ridership. Maximizing fare revenue ensures that riders pay a fair portion of costs and that other sources of transit funding are not unduly burdened. Maximizing ridership, particularly in congested areas such as Greater Boston, has a positive effect on air quality, traffic congestion, business viability, and highway maintenance costs.

Throughout most of the 1980s, the MBTA has followed a strategy of increasing ridership by keeping fares stable. That strategy has been successful, with MBTA ridership increasing by more than 100,000 trips per day. Two factors combined to influence the decision to keep fares stable for most of the 1980s: the ridership loss in the early 1980s when fares were raised significantly, and the fact that the MBTA was engaging in a major effort to modernize and expand the system.

Fare Changes In the 1980s

In 1980 and 1981, the fiscal crisis surrounding the passage of Proposition 2½ and the Legislature's enactment of a four percent cap on MBTA budget growth led the Authority to raise fares sharply. In June, 1980, subway fares were doubled to 50¢. In August 1981, subway fares were increased again to 75¢ and bus fares were doubled to 50¢. Despite steep discounts for the elderly and persons with disabilities, ridership plummeted by 90,000 trips per day, or 15 percent of total ridership.¹

In 1982, the MBTA reduced the basic subway fare to 60¢ and the Legislature set the fare for senior citizens at 10¢. 1982 also marked the beginning of a major increase in state support for the MBTA's capital improvement program. Between 1982 and 1989, the MBTA spent \$2.5 billion to expand and modernize the system. To encourage people to use the system, fares were held constant until 1989.

¹During the time fares were increased, fiscal problems also resulted in service reductions. A study by the Central Transportation Planning Staff (Final Environmental and Socioeconomic Impact Report of the MBTA Fare Increase, December, 1983) found that of the 15 percent total decline in ridership, 9.4 percent was caused by the fare increase and 5.5 percent was caused by service reductions.

In 1989, the MBTA raised subway, commuter rail, commuter boat and express bus fares, as shown in Chart 5-2.²

1989 Fare Increases

Chart 5-2

• Commuter rail	17% to 32% increase
• Subways and streetcars	25% increase
• Express buses	25% increase
• Commuter boat	33% increase

The 1989 fare increase resulted from both a recognition of the State's deteriorating fiscal condition and a desire to adhere to the MBTA Advisory Board's policy that fares cover at least 33 1/3 percent of operating expenses. MBTA management also thought that improved customer satisfaction would help avoid any significant ridership loss.

This fare increase highlights the delicate balance between maximizing revenue and ridership. The fare increases raise \$16.6 million annually. However, they also have resulted in a ridership loss of 0.4 percent. The steepest loss came on the subway. The basic subway fare was raised 25 percent, and total subway ridership dropped 3.3 percent as a result³. This is less than industry expectations, which hold that for every one percent increase in fares, ridership will drop three tenths of one percent.⁴

The MBTA's Fare Recovery Ratio

Since 1984, the MBTA Advisory Board has proposed that Authority fare revenues equal or exceed 33 1/3 percent of operating expenses. In defining operating expenses, the Advisory Board excludes debt service and purchased services such as commuter rail, The RIDE, and private bus service. Because commuter rail service is an integral part of MBTA operations and because there is considerable commingling of basic system and commuter rail pass use among customers, this report will include commuter rail expenses and income in the calculation to provide a more comprehensive fare recovery ratio.

As previously discussed, the MBTA held fares stable for most of the 1980s. As a

² These fare increases, worth \$16.6 million annually, would be rescinded if voters approve an initiative petition sponsored by the Citizens For Limited Taxation that would roll back all fee increases to June 1988 levels. Parking fee increases, worth another \$4.5 million annually, would also be subject to this rollback.

³ MBTA Revenue and Service Environmental Impact Report on the 1989 Fare Increase. Prepared by the Central Transportation Planning Staff, March 1990. Supplemental Draft.

⁴ Patronage Impacts of Changes of Transit Fares and Service. Prepared by Esometrics, Inc., under contract to the U.S. Department of Transportation, Urban Massachusetts Transportation Administration, September 1980.

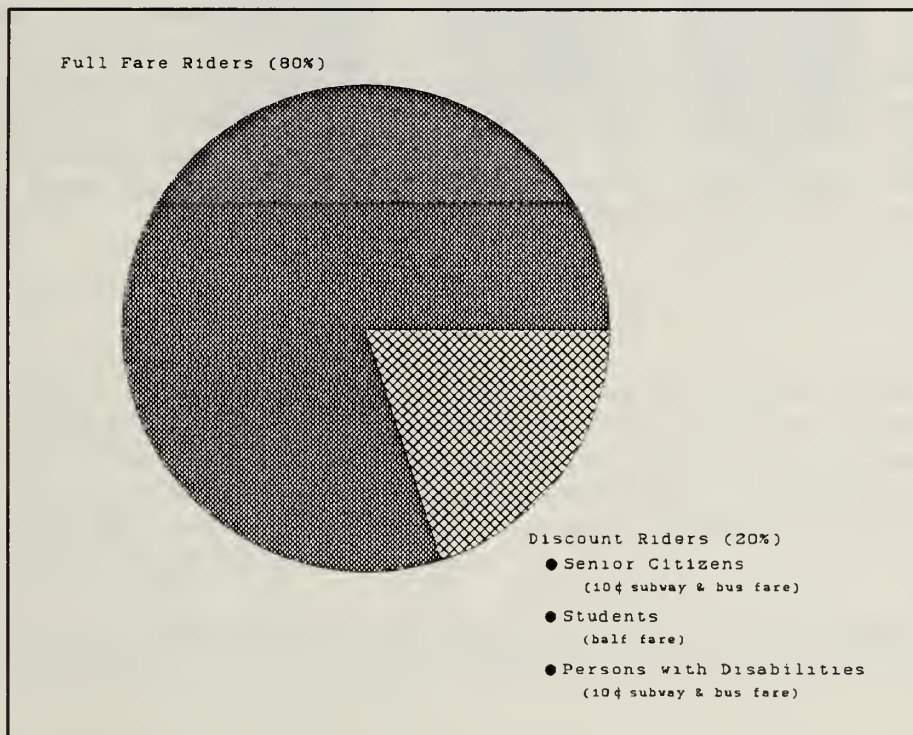
result, inflation ensured that the MBTA operating budget would grow faster than the increases in fare revenue resulting from higher ridership. Accordingly, the fare recovery ratio fell from 36.1 percent in 1982 to 30.1 percent in 1988, the year before the fare increase. In 1989, which had a partial year's worth of fare increase, the ratio increased to 31.1 percent. In 1990, with the fare increase being collected for the full year, the fare recovery ratio should rise slightly to 31.4 percent, just under the Advisory Board's threshold.

MBTA Base Fare Recovery Ratio and Fare Expenditures

Aggregate statistics on fare recovery ratios do not reflect the fact that the MBTA's current fare levels include a number of costly subsidies through which several categories of riders pay less than the Authority's base fare. These subsidies, or "fare expenditures," reduce the revenue generated by the system below the amount of revenue the MBTA would raise if all riders paid the full base fare for all system trips. Within the current MBTA fare system, subsidies in the form of reduced fares are provided to the elderly, students and persons with disabilities. (Reduced fares are also available for children although their impact on collections is insignificant.) Chart 5-3 illustrates that one-fifth of all MBTA customers ride at a discount. As Chart 5-4 indicates, these fare expenditures policies result in an annual revenue shortfall for FY1990 of approximately \$26.3 million compared to the fare revenue that would have been raised if all riders paid the full base fare on all trips.

One Out of Five Customers Rides at a Discount

Chart 5-3



MBTA Fare Subsidies Through Discounts

Chart 5-4

(\$ Millions)		
<u>Fare Expenditure</u>	<u>Authorized By</u>	<u>Annual Revenue Loss</u>
Senior Citizen Discount	Legislature	\$17.2
Discount for Persons with Disabilities	MBTA Board of Directors	2.5
Student Discount	Legislature	<u>6.6</u>
Total		\$26.3

Low income riders also are favored by the MBTA's exemption of local bus service from the recent fare increases. MBTA survey data indicates that 27 percent of bus riders have average incomes of less than \$15,000, compared to 12 percent of all riders.⁵

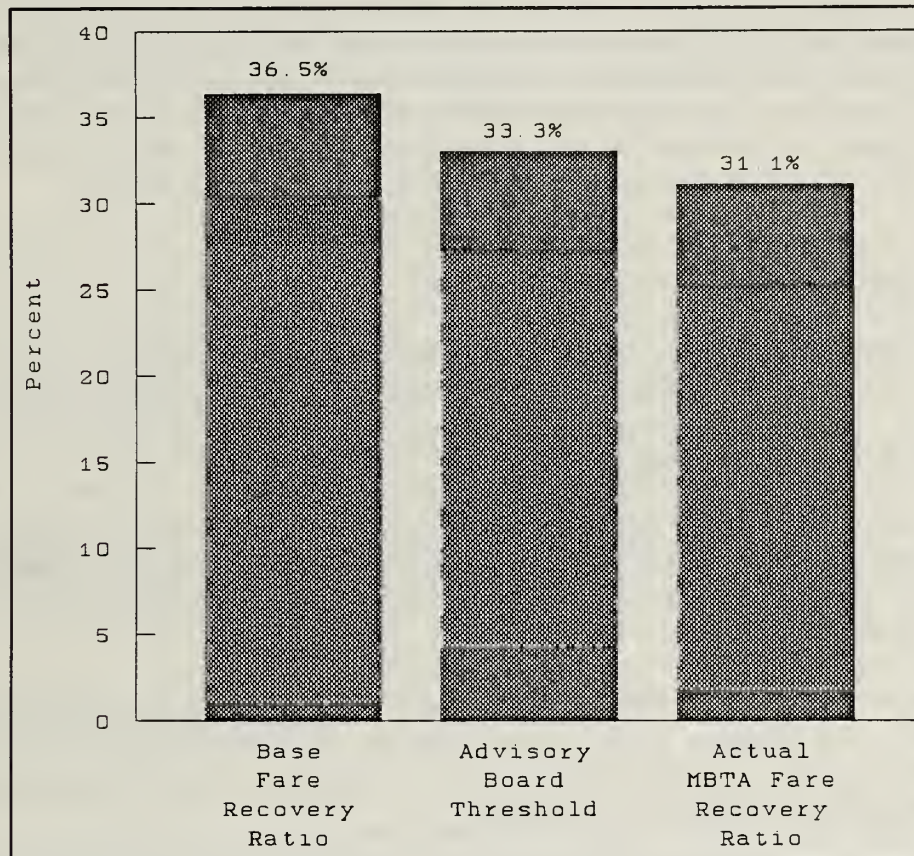
To assess the adequacy of MBTA fare levels and the desirability of additional fare increases, the Authority's fare recovery ratio should be computed in a way which calculates the fare revenue that would be generated if all riders paid the system's base fare for all trips (the "Base Fare Recovery Ratio"). Specific fare expenditures in the form of reduced fares to special classes of riders should thus be itemized in the MBTA's budget and their cost quantified. These fare expenditures could be evaluated each year. The Base Fare Recovery Ratio minus all policy-driven fare expenditures would equal the actual fare recovery ratio anticipated for the following year.

⁵1989 MBTA Ridership Survey prepared by Atlantic Marketing Research Co. Inc. October 1989.

As Chart 5-5 shows, the Base Fare Recovery Ratio, determined as described above, would exceed the MBTA Advisory Board's 33 1/3 percent fare recovery threshold.

**MBTA 1989 Fare Recovery Ratios:
With and Without Fare Subsidies**

Chart 5-5



As of 1989, the MBTA's Base Fare Recovery Ratio was 36.4 percent, with theoretical fare revenue gains of \$26.3 million attainable if all riders paid full fares. Of this amount \$16.7 million results from the legislatively imposed cap on subway and bus fares for the elderly, which is set by statute at 10¢ during all periods of travel.⁶ Student discounts cost the Authority an estimated \$6.6 million in fare revenue, and the discount for persons with disabilities costs another \$2.5 million per year.

This calculation of the full cost of subsidies built into MBTA fare levels illustrates that the Authority's actual fare recovery ratio results at least in part from desirable socio-

⁶ Senior citizens may also ride commuter rail for half fare and this results in another \$0.5 million revenue loss. Moreover, House Bill 872 would reduce the qualifying age for the Senior Citizen Discount from age 65 to age 60. Should this bill, pass, it would reduce MBTA fares by \$4 to \$5.3 million annually.

economic policies embedded in the fare system, in large part by legislative mandate. (The discounts offered by the MBTA go well beyond federal government requirements that senior citizens and persons with disabilities travel at half fare during non-rush hour.)

As the MBTA comes under increasing pressure to raise its fare revenues, the Authority should make certain that all subsidies built into the current fares are analyzed, their costs quantified, and their level subjected to similar inflation adjustments as other fares. To the extent fares are designed to raise revenues and not to make social policy, the MBTA might propose that the cost of fare subsidies to the elderly, persons with disabilities, students and other disadvantaged riders be borne directly in the EOTC budget, rather than be hidden in the MBTA's fare structure. This approach is used in the Toronto transit system and also has precedent in Massachusetts. Since FY1987, the EOTC budget has included a line item subsidy to reimburse other regional transit authorities for the cost of improved service to passengers with disabilities.

Future Fare Increases

The MBTA fare recovery ratio is slightly below the Advisory Board's 33 1/3 percent policy. Part of that difference is because of steep, legislatively mandated discounts in the base fare. Without such discounts, the fare recovery ratio would exceed the Advisory Board's 33 1/3 percent threshold.

However, the MBTA's operating budget is increasing at six to seven percent per year, while fare growth from ridership increases is growing at just two to three percent annually. This means the fare recovery ratio will decline again unless there are regular fare increases.

Certain transit systems, such as Toronto, take an annual incremental approach to fare increases. One advantage of this system is that the fare increases are quite small, thus avoiding the "token trauma" that many riders experience when fares are increased dramatically after a long period of stability.

Having raised fares significantly less than a year ago, the MBTA need not immediately consider another fare increase. In future years, however, the MBTA should consider regular fare increases. Perhaps this could take the form of small, annual, across-the-board fare increases. An alternative approach is the idea of a fare cycle. In the first year of the cycle, for example, the MBTA could raise subway fares. The second year the MBTA might raise commuter rail, commuter boat, express bus fares and parking fees. During the third year, local bus fares would increase, and in the fourth year the cycle would start over. If such a cycle were to become policy, the MBTA recommends that local bus fares be raised last, as local bus riders are the poorest of all MBTA customers. Buses can be considered the "safety net" of public transportation, which is one reason why local bus fares were not raised in 1989. As a result of that fare increase, there was a distinct shift in ridership from subway to bus. Subway ridership dropped 3.3 percent while bus ridership -- which had been slowly declining -- rose 1.9 percent.

Several transit systems, such as the Metro system in Washington, D.C., have advanced fare collection technology which provides, through automation, an efficient means to implement distance-based pricing schemes. Procurement of such a system at the MBTA

would permit more sophisticated approaches such as peak-hour pricing, distance-based fares and would make smaller, incremental fare increases easier to implement.

Finally, it is important to remember that the MBTA Advisory Board plays an important role in fare increases. Local bus fares cannot be increased without Advisory Board approval. And because many passes allow riders to use both bus and subway, the Advisory Board has a voice in overall fare policy.

Another possible fare increase option is peak pricing for non-pass users. This involves charging a higher price for riders who use the system only occasionally, and who do so during peak period. An example of this strategy would be to leave the base subway fare at 75¢ but to charge, say, \$1.00 to non-passholder patrons riding the system during the rush hour.

The justification for such a strategy is that the MBTA incurs more expenses to serve this category of rider. Because they do not buy a pass, the MBTA must incur the costs of issuing tokens and handling coins. Also, by increasing peak period ridership, these riders increase the overall capacity required by the MBTA. If peak pricing caused some of these riders to schedule their trips at other times of day, the rush hour would be eased and the MBTA could meet service demand with a smaller fleet.

There are formidable barriers to such a strategy, however. While it is possible to increase the price of a token to \$1.00 if it is sold during peak period, there is nothing to prevent riders from buying tokens at the 75¢ price during the non-peak period. Adopting a peak-pricing strategy may not be practical until capital improvements are made to the MBTA's fare collection system. With procurement of new fare collection technology, peak and off-peak pricing differentials could be automated. Other benefits from new equipment would include better tracking of ridership counts and the destination of passengers, more accuracy in estimating the costs of subsidized fares and savings in operating costs from automation.

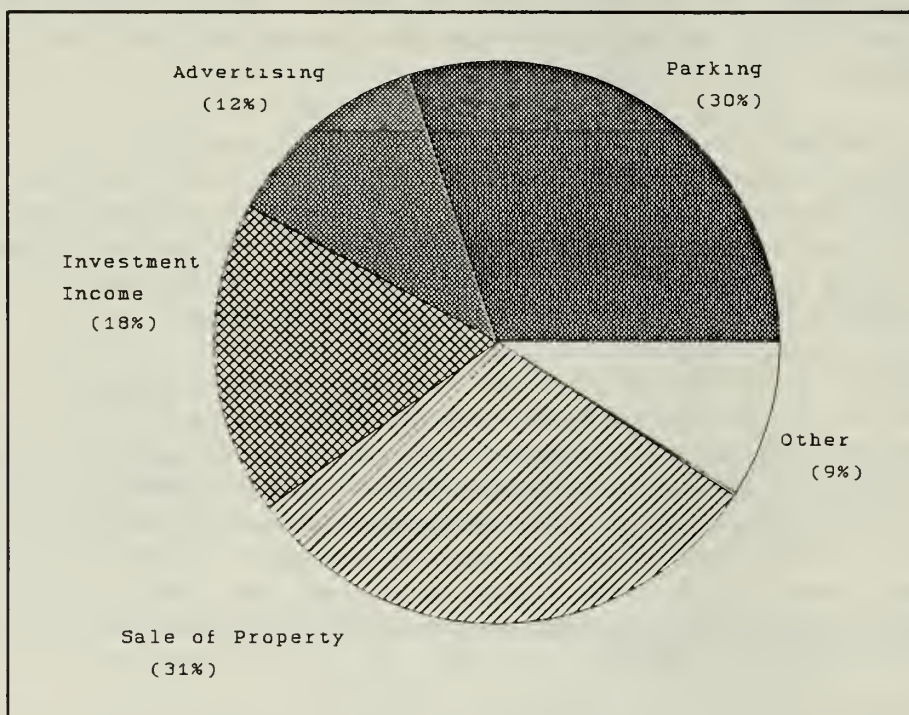
One of the benefits of a peak pricing strategy would be to move more riders into the category of passholders to avoid the higher peak prices. When more customers use passes, collection costs can be reduced and waiting times are eliminated. By simplifying the pass structure during the recent fare increase and by expanding the network of pass outlets, progress has already been made. Currently one-fifth of MBTA riders purchase passes -- an exceptionally high percentage compared to other systems.

The objective of peak pricing is to encourage non-peak use. The MBTA is doing this through marketing efforts such as the "Boston Passport" tourist pass and special trips to cultural and sporting events. Unlike peak period, adding passengers during off-peak requires no additional capital investment and little additional labor costs. The MBTA's pass program can also be viewed as an incentive to travel during the off-peak. The passes are priced to provide a slight discount to commuters who use the MBTA to get to and from work. Having purchased a pass, however, passholders can then use their pass, at no marginal cost, for non-commuting trips during the off-peak.

Other Income

In FY1990, the MBTA will generate about \$20 million in revenue from sources other than fares. The main sources include parking fees, advertising, investment income and sale of property, as Chart 5-6 shows.

MBTA Non-Fare Revenue by Source: FY1990
Chart 5-6



The MBTA covers a greater percentage of its operating budget with other source revenue than most other transit authorities: 3.7 percent for the MBTA compared to the large system median of 2.6 percent. However, this percentage is still quite small compared to the shares paid by riders, cities and towns, and the State. Therefore, while it is certainly possible and desirable to maximize this income, even very large percentage increases will not significantly alter the share of the MBTA's budget paid for by the State. The rest of this chapter discusses the recent financial performance and current MBTA initiatives for each of these revenue streams.

Parking

MBTA parking revenue will total \$6.8 million in 1990, more than double the amount collected just two years ago. This large growth in revenue resulted from the imposition of parking fees for the first time at commuter rail stations, and by increasing the rapid transit parking fees from 33 to 100 percent. While these increases will generate \$4.5 million annually, they have also reduced daily ridership by 2,020 trips. However, this ridership loss is expected to abate as other commuters -- who are willing to pay the

increased fees -- realize that parking is available. There was also some customer resistance to the parking fee increases, especially at commuter rail stations. Part of this resistance was caused by the magnitude of the increases in fees. Future increases in parking fees could perhaps be smaller, and be assessed more frequently.

Parking Fee Increases

Chart 5-7

- | | |
|-------------------------|----------------------|
| • Subway Parking | 33% to 100% increase |
| • Commuter Rail Parking | No fees before |

Advertising

MBTA advertising revenues have declined in recent years, primarily due to the Authority's response to changing public attitudes about such advertising. For example, alcohol and tobacco advertising has been almost abandoned, and the MBTA has abandoned advertising on the exterior of new buses. As more buses are purchased and older buses are retired, the number of buses with exterior advertising decreases. The MBTA Advisory Board calculates that the Authority could increase advertising revenue by \$2 to \$3 million annually by allowing exterior bus advertising and advertising on bus shelters. While the MBTA remains committed to assuring that both the content and placement of advertising is appropriate, the Authority is moving forward with plans for more advertising including:

- Clocks in subways (estimated FY1991 yield of \$100,000);
- New electronic signs for advertising (estimated FY1991 yield of \$200,000);
- A pilot program for advertising on bus shelters (estimated FY1991 yield of \$50,000); and
- A panel of the pocket-size system "spider map" now carries advertising and a similar plan is being considered on the reverse side of monthly passes.

Investment Income

The MBTA keeps its cash on hand fully invested. Until 1986, the Authority would often have large amounts of bond proceeds to invest, and could generate \$6 to \$8 million per year in interest. As the Authority could borrow at lower tax-exempt rates and invest at higher taxable rates, this process was rather profitable. However, the Federal Tax Reform Act of 1986 effectively eliminated this opportunity. Under the new tax laws, large amounts of working capital do not build up, and investment income has declined to \$3.2 million. Given the existing tax law, there is no significant growth potential in this area.

Sale and Leasing of Property

As part of its heightened attention to revenue management, the MBTA is reviewing its numerous parcels of property. The purpose of the review is to identify parcels for potential sale if there is no foreseeable use for them, identify parcels where easements can be profitably granted, and review existing property to ensure that the Authority has properly booked revenue related to property. In 1989, sale of property yielded \$2.3 million. However, sale of property, by its nature, is not a predictable revenue stream. The Authority is also using leases and granting easements for fiber optics technology as ways to generate long-term revenue streams from its property. Joint development with private partners in such programs as the "Adopt-a-Station" initiative can not only provide revenue but subsidize improvement costs.

Revenue Recovery Ratio

The need to maximize all sources of revenue is highlighted by the Legislature's recent enactment of a mandatory revenue recovery ratio. The ratio requires that all sources of MBTA income (including federal operating grants) must cover at least 33 1/3 percent of total operating expenses. Total operating expenses are defined as total current expenses less debt service and the cost of the RIDE and private bus service.

In 1990, the MBTA expects to meet the 33 1/3 percent requirement. However, meeting the 33 1/3 percent ratio in future years will require regular fare increases as well as the maximization of non-fare income.

Conclusions

This review of the MBTA's fares, fare recovery ratio and other sources of revenue leads to the following conclusions:

- Despite its modest fares, the MBTA's fare collections per mile of service is significantly above the industry median. This is caused mainly by the fact that the MBTA is a high ridership system;
- The MBTA's fare recovery ratio is below the Advisory Board threshold partly because of steep, legislatively mandated discounts. These discounts cost the MBTA \$26.3 million per year. Without them, the base fare recovery ratio would be 36.5 percent, comfortably above the Advisory Board's 33 1/3 percent threshold;
- The 1989 fare increase has halted the decline in the fare recovery ratio. However, only regular fare increases can maintain this ratio;
- The MBTA funds a relatively high percent of its costs by other income. Sale of property, while important, cannot by its nature be considered a steady, reliable source of income. The MBTA is moving forward with selected advertising initiatives and is attempting to balance the need to

maximize revenue with concern about the appearance of stations and vehicles;

- The recently enacted legislative revenue recovery ratio of 33 1/3 percent can be met with existing sources of revenue but will require periodic fare increases in the future; and
- Adjusting fares and parking for inflation will generate an extra \$7 million per year, on average. While this revenue is important, even a system of annual fare increases would succeed only in holding constant the percentage of the MBTA's budget covered by fares. With the local share and the federal share continuing to decline, this means that the State share will continue to increase.

CHAPTER 6

Survey of Other Transit Systems

Introduction

Major transit systems in America each have their own particular histories, passenger mix, operating constraints and infrastructures. As such, comparisons can be misleading. However, understanding how other decisionmakers have chosen to fund their transit systems may help State and local decisionmakers analyze alternatives to the Authority's current funding structure and budgeting systems.

Systems Surveyed

In selecting other transit systems for inclusion in the survey, efforts were made to identify transit systems which resembled the MBTA in size and service mix. Certain general selection criteria were established, including the following:

- Systems in major metropolitan areas from around the country were selected to avoid particular geographical and system age biases;
- Multi-modal systems which, like the MBTA, provide a variety of services (e.g. bus, subway and streetcar) were included where possible;
- Only systems which alone, or in conjunction with other related transit systems, had operating budgets in excess of \$100 million were included; and
- Systems which relied upon varied sources of subsidy funding were sought in the hope that further analysis of their sources of funding would be useful in developing alternative funding mechanisms for the MBTA.

The following systems were selected for inclusion in the survey:

<u>Region</u>	<u>Name of System(s)</u>
Atlanta, GA	<ul style="list-style-type: none"> • Metropolitan Area Rapid Transit Authority
Chicago, IL	<ul style="list-style-type: none"> • Chicago Transit Authority
Cleveland, OH	<ul style="list-style-type: none"> • Greater Cleveland Regional Transit Authority
Dallas, TX	<ul style="list-style-type: none"> • Dallas Area Rapid Transit
Detroit, MI	<ul style="list-style-type: none"> • City of Detroit Department of Transportation • Southeastern Michigan Transportation Authority
Los Angeles, CA	<ul style="list-style-type: none"> • Southern California Rapid Transit District
Milwaukee, WI	<ul style="list-style-type: none"> • Milwaukee County Transit System
Minneapolis, MN	<ul style="list-style-type: none"> • Metropolitan Transit Commission
New York, NY	<ul style="list-style-type: none"> • New York City Transit Authority • Metro-North Commuter Railroad Company • Long Island Rail Road Company
Philadelphia, PA	<ul style="list-style-type: none"> • Southeastern Pennsylvania Transportation Authority
Pittsburgh, PA	<ul style="list-style-type: none"> • Port Authority of Allegheny County
San Francisco Bay Area, CA	<ul style="list-style-type: none"> • Alameda-Contra Costa Transit District • San Francisco Bay Area Rapid Transit District
Seattle, WA	<ul style="list-style-type: none"> • Municipality of Metropolitan Seattle
Washington, DC	<ul style="list-style-type: none"> • Washington Metropolitan Area Transit Authority

Data for the systems surveyed was drawn primarily from the American Public Transit Association's Transit Operating and Financial Statistics for 1982 and 1988. This volume, published annually, is a compilation of statistics drawn from standardized Section 15 reports submitted by mass transit authorities nationwide under the Urban Mass Transportation Act. This leads to differences with other data presented in this report. For example, Section 15 data uses "unlinked" passenger trips as a measure of ridership growth. This means that if a passenger boards the Green Line in Newton, changes to the Red Line at Park Street and disembarks in Cambridge, two trips are counted. Other ridership data provided in this report would count this as one "linked" trip.

To maintain comparability, Section 15 data for the MBTA is used throughout this chapter.

Summary of Survey Findings and Conclusions

Findings can be summarized and conclusions drawn for each of the four broad areas which follow. For the purposes of this analysis, the sample "average" refers to the median of systems surveyed.

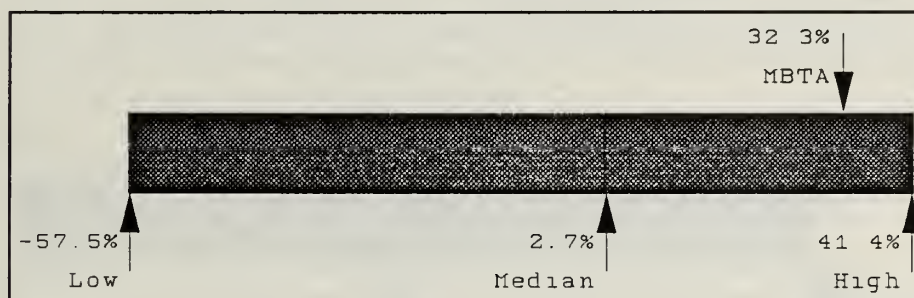
Systems Statistics

Various statistics were examined to form bases of comparison between the systems surveyed. Several indicators of the scope of service changes over time are summarized below:

- MBTA ridership increased 32.3 percent between 1982 and 1988, second only to Dallas Area Rapid Transit whose ridership has actually declined since 1986. (As previously noted, unlinked passenger trip growth is being measured here. Linked trips have increased 23 percent since 1982.)

Change in Unlinked Passenger Trips: 1982 - 1988

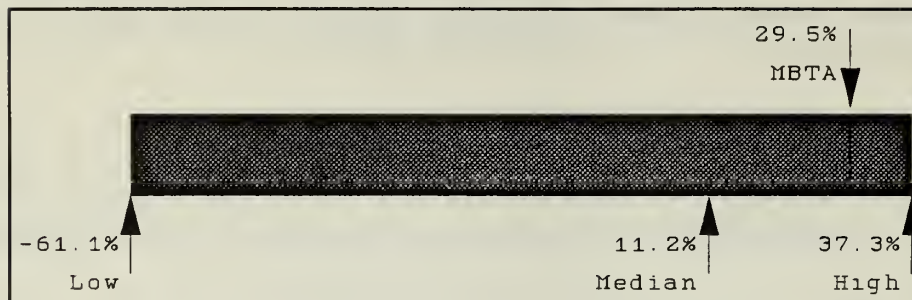
Chart 6-1



- Total revenue miles for the MBTA increased 29.5 percent between 1982 and 1988, nearly three times the median increase for systems sampled.

Change in Revenue Miles: 1982 - 1988

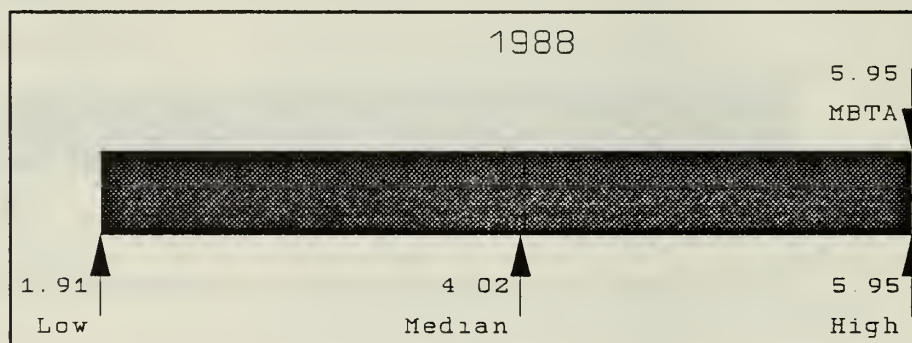
Chart 6-2



- Passenger trips per revenue mile provide an indication of the effectiveness of a system. Of those surveyed, the MBTA ranked first in 1988 (with a ratio of 5.95:1).

Passenger Trips Per Revenue Mile: 1988

Chart 6-3



Funding Sources of Operating Subsidies

Information on sources of public operating subsidies for each system was collected. In the instances of historical comparisons (1982 versus 1988), only twelve systems are included due to the fact that 1982 data was not available for the other seven systems surveyed. Several findings and conclusion are highlighted below.

- The overall funding profile of the systems surveyed shows a diverse mix of funding sources for transit system operating subsidies. On average, local funding sources account for almost 56.7 percent of total revenues available to subsidize operating costs (and in some instances, capital costs), with local sales tax contributing more than half of this amount or approximately 31.7 percent of total subsidies. State sources cover 33.9 percent of total subsidies, half of which is drawn from dedicated funding sources (i.e. not from state general revenues). Finally, federal grants provide the remaining 9.4 percent of total subsidies.

- Compared with the sample, the MBTA relies far more on State general revenues as a funding source.
- For most other transit systems, cities and towns served by the system bear a higher proportion of the operating subsidy cost than member communities do for the MBTA.
 - However, this local share is rarely funded from property taxes. Instead, the local share usually comes from a dedicated sales tax or other broad-based revenue source.
 - Moreover, unlike Massachusetts, other states generally have less constrained local property taxing power.
- For the vast majority of systems sampled, the level of state general revenue contributions is modest, representing on average 16.9 percent of total subsidy. The systems typically have at least one dedicated state tax revenue source with state sales, lottery and other revenues averaging nearly 17 percent of total subsidy.
- Dedicated taxes, primarily on sales of certain goods, are the most common source of funding after fares. Sales taxes dedicated to mass transit operating subsidies are frequently imposed only within the boundaries of cities and towns served by a given system.
 - Nine of the systems surveyed have dedicated local sales tax revenue, and of these, two also receive dedicated state sales tax revenue.
 - Eight of the systems surveyed have other types of dedicated revenues from such sources as gas, property and vehicle excise taxes, lottery proceeds and toll revenue.
 - Unlike the MBTA, most other systems operate with uncapped, dedicated subsidy revenue sources, many of which are derived from dedicated taxes, most commonly a sales tax.

Governance and Oversight

Information was collected on the organization of other systems. Wherever possible, a description of the governing body (e.g. elected or appointed board of directors) and those with policy or budgeting oversight was obtained.

- Most mass transit systems were established as local or regional authorities, districts or similarly independent bodies. In some instances, local or regional transportation systems are operated as departments or agencies of local or regional governments.
 - Regional/local transportation policy decisions are generally made at the regional/local level, as has been the case with the MBTA.

- Systems tend to be governed by boards or commissions whose members are either appointed by local or regional elected officials or are themselves elected.
- State level oversight is generally limited to decisions regarding the mix of funding sources. Budgeting and service decisions are made solely at the local and regional level.
- The MBTA's governance structure reflects its hybrid funding structure, with board members selected at the State level by the Governor and policy oversight and budget approval provided by an advisory body comprised of member cities and towns.

Budgeting Procedures

For each of the systems sampled, the budgeting process for operating expenses and capital expenditures was reviewed. Other budgeting related issues, such as funding for working capital and budget oversight procedures were reviewed.

- Most transit systems develop their own budgets, subject only to board approval with no further review by legislative or executive bodies of the municipalities served or by the state.
- The MBTA and other systems make budget-sensitive policy decisions for review by oversight bodies that are accountable to local voters and transit system users within their service area.
- With budgetary review and approval vested in its Board of Directors appointed by the Governor and its Advisory Board of member communities, the MBTA's spending is subject to both state and local oversight.
- The majority of systems have multi-year operating and capital budgets which provide transit system decisionmakers with advance notice of the system's projected growth and funding needs.
- The MBTA's current budgeting system provides certainty for system managers in that expense levels are known more than six months in advance. State and local subsidies can be projected nearly two years in advance.
- The Legislature could benefit from long-range MBTA subsidy projections in planning future spending.
- Though all transit systems have own-source revenues (i.e. fares, parking fees, advertising) which are inadequate to meet total system operating expenses, most have dedicated taxes or other earmarked revenues to meet the balance of their revenue needs. With dedicated taxes, these systems generally do not require state or local funding of year-end subsidies.

CHAPTER 7

Conclusion and Policy Options

In the years immediately following World War II, a million passengers rode the T each workday. With the rise of the automobile, ridership dropped almost every year until 1975 when ridership reached an all-time low of 480,000, less than half the ridership level of earlier decades.

Since 1982, ridership on the MBTA has been growing again. This is a direct result of legislative foresight in addressing capital investment needs and management reforms which have led to increased productivity and customer satisfaction. Average daily ridership is now 660,000 and growing.

One Million by the Year 2000?

In a ranking of cities according to the severity of urban highway congestion conducted by the Federal Highway Administration in 1984, Boston was listed eighth -- immediately behind Los Angeles. The FHWA estimated in that year, that Boston drivers experienced 44.8 million vehicle-hours of delay on major highways alone; the study did not examine congestion on local highways or city streets.¹

Over the next decade, nearly 200,000 new jobs will be created in the general area served by the MBTA district. It would be unwise to expect all of these new workers to get to their jobs by automobile.

Transportation planners predict that by the year 2010, the share of MBTA area trips made using public transportation will grow from 10.9 percent to 14.4 percent -- a 32 percent increase. The share of total trips made on public transportation to the Central Business District is expected to increase from 40 percent to nearly half of all such trips.² For work trips only, this share currently exceeds 50 percent and will continue to grow.

This estimate uses the existing transportation network to project growth. Clearly, expanded economic activity and proposed public transit construction in the South Boston Piers area will significantly increase these projections. Of the estimated 100,000 average daily trips projected for this area when fully developed, 60 percent would utilize public transit.

¹ Gridlock: Facing Boston's Transportation Crisis, (Conservation Law Foundation, 1989) p.8.

² Estimates for transportation demand from the Central Transportation Planning Staff (CTPS). The central business district (CBD) includes the Financial District, Government Center, the North End, the West End, Beacon Hill, Back Bay, Midtown, Chinatown, Bay Village, the South Station area, and the Waterfront. The MBTA's share of work trips to just the Financial District is over 60 percent.

In its work examining future MBTA service and funding alternatives, the MBTA Advisory Board found that there were 24 areas with a need for improved transit service levels as early as 1993 -- and this study assumed the construction of commuter rail service to Newburyport, Worcester and along the Old Colony line.³ Areas in need of more public transit service to accommodate 1993 demand levels are:

- Core Area:
 - the North End
 - the Waterfront neighborhood of Boston
 - Kendall Square
 - the east portion of Somerville
 - the central portion of Somerville
 - Chelsea
 - Everett
- Outer Transit Market/North:
 - Lynn
 - Nahant
 - Salem
 - Wenham
 - Winthrop
- Outer Transit Market/Southwest:
 - Avon
 - Medway
 - Stoughton
- Route 128 Area:
 - Bedford
 - Billerica
 - Framingham
 - the south portion of Malden
 - Natick
 - the north portion of Newton
 - Stoneham
 - Waltham
 - Wellesley

There is a general expectation that capacity on public transit should be adequate to meet needs. But capacity will simply not expand without a commitment of resources and a funding structure that works.

This study has focused on the funding and financing of the MBTA as it currently exists. A number of recommendations emerge for the future.

³ Future MBTA Ridership, Revenue, and Costs, Volume I (MBTA Advisory Board, 1988), p. xv, 55.

MBTA Cost Control

Over the past ten years, the capital investment in the MBTA system and the implementation of Management Rights Legislation have resulted in a more efficiently run transit system. This is true even though the pay scale for MBTA operators has grown faster than inflation and is now among the highest in the nation. Controlled for inflation, it now costs five percent less to provide a mile of MBTA service than it did in 1982.

The MBTA is committed to continued reductions in the cost of its basic unit of service. The following reforms can assist in meeting this goal:

- Enactment of a cap on tort claims to save \$5 million annually when fully effective;
- Enabling legislation to allow the MBTA to buy and sell power in the wholesale market and save \$2.1 to \$3.2 million annually;
- Reform of the workers' compensation law to stem the double-digit growth in these expenses;
- Continued pursuit of the most cost-effective way to provide service including subcontracts and subsidies to private carriers and contracting out for basic maintenance services;
- Enactment of the authority to issue revenue bonds, where appropriate, so that capital projects can be self-financing and reliance on State debt service assistance can be reduced;
- Enactment of parking laws enforcement powers for MBTA police to maximize revenues from MBTA parking lots; and
- As suggested by the MBTA Advisory Board, a reform of the arbitration process to produce more predictable outcomes.

Certainty in Budgeting

The current MBTA budgeting system provides certainty about the level of resources necessary for the upcoming fiscal year more than six months before it begins. This allows time to develop schedules and manpower requirements which result in a more efficient use of resources once the fiscal year begins.

The current system also allows for predictability in the area of State and local subsidies. Actual costs are known six months in advance of the fiscal year of the respective subsidies -- and costs can be predicted with some precision nearly two years in advance.

These already existing "early warning" systems could be augmented by a State-wide initiative to develop a five-year capital plan for all capital investments as recommended by the Crozier Commission. As part of this process, the MBTA's capital improvement program and associated debt service could be incorporated into the larger process of

State-wide capital planning to provide more information about the impact on the future of the capital decisions made today.

Forward Funding

Since the early days of public transit in the Commonwealth, day-to-day operating expenses have been financed with working capital which was either advanced by the State or borrowed. Further, the assessment of the State and municipal share of MBTA costs has occurred historically only after actual expenses were known.

Changing the current financing system of the MBTA to provide for appropriation of the State subsidy at the same time that the budget is approved by the MBTA Advisory Board has been suggested as a way to save the interest costs on working capital.

If implemented fully in FY1991, forward funding would require nearly \$600 million in additional appropriations for the MBTA. If these funds were borrowed, which they likely would be given the current fiscal environment, the breakeven date for this investment would occur eighteen years from now in FY2008.

An incremental approach would result in savings a year earlier and budget outlay relief by FY1997. However, this would only occur if a current source of revenue was used to incrementally forward fund the MBTA.

Forward funding by itself will not alter the fact that the State share of MBTA costs is growing.

The Local Share of MBTA Costs

Cities and towns within the MBTA district pay their share of MBTA costs with property tax revenues -- virtually the only locally-controlled source of revenue. Because of the limitations on property tax growth enacted in the past decade, this share has declined.

A review of the causes of this decline raises several points of interest:

- First, it was not Proposition 2½, but subsequent legislative action which capped MBTA assessments at two and one-half percent growth annually. Proposition 2½ as enacted by the voters capped assessments at four percent. If assessments had been capped at four percent rather than two and one-half percent over the last decade, an additional \$20 million of MBTA operating costs would be paid by cities and towns this fiscal year.
- Second, Proposition 2½ has caused a dissolution of the 1974 partnership between the State and municipalities to share equally in the MBTA operating subsidy. If that partnership were still intact, the city and town share would be \$65.7 million higher this fiscal year.

Within the existing system for assessing MBTA costs on cities and towns, there are several areas which have been examined in the context of improved equity:

- Twenty-five communities in the district have a portion of their MBTA assessment reimbursed by the Commonwealth. This reimbursement was capped in FY1988 at \$5 million annually. To the extent that general local aid cuts have not already eliminated this reimbursement, the Legislature could review further reductions.
- Modifications to the existing formula which would improve its equity have been considered in previous work on this subject by the MBTA Advisory Board. Three examples of possible changes were reviewed:
 - Including ridership counts from new stations built after 1973 in the allocation of the costs of MBTA express service;
 - Redefining express bus service so that it is allocated with other express service rather than as local service; and
 - Counting passengers who board at major regional stations in their town of origin rather than in the town where the station is sited.
- The MBTA Advisory Board has taken a more comprehensive approach to modifications of the existing formula. Several alternatives have been developed to control in a more detailed way for the types of historical distortions examined in this study.

These changes would shift costs from some communities to others. Under current statutory restrictions on MBTA assessments, while these changes might make the formula more fair, they are a zero sum game from the State perspective.

The MBTA district was created in 1964 and since that time service has changed significantly. If the district were expanded to include all of the communities which receive MBTA service, another 50 communities could be added. There are also 13 communities where more than half of the workforce commutes into the district. Six of these communities are not included in the number above bringing the total number of additional communities which could be included in an expanded district to 56.

Assessments could be increased by an additional \$3 to \$11 million if the MBTA district were expanded. However, there is an existing network of Regional Transit Authorities (RTAs) which currently serve the cities and towns outside the MBTA district. The RTAs have their own State subsidy (now totalling \$23.7 million annually and covering between 50 and 75 percent of their net costs of service) and their own assessment practices for local service provided to member cities and towns. Expansion of the MBTA district may make sense given the fact that direct service has expanded since the original district was created in 1964. At the same time, expansion would require major changes in the current structure of service provision in communities currently outside the MBTA district. Additional assessments would be subject to the same limited municipal revenue base that currently exists inside the MBTA district.

The Customer's Share of MBTA Costs

The MBTA Advisory Board has adopted a policy that fare revenues account for 33 1/3 percent of operating costs annually. Recently, the Legislature mandated that all MBTA revenues cover this same share of costs.

The percentage of costs paid by MBTA own-source revenues has come into compliance with the legislative mandate as a result of fare increases for passengers and fee increases at MBTA parking lots. However, maintaining this level in the future will require fare and fee increases.

We have described how deep, legislatively mandated fare discounts for the elderly, students and persons with disabilities reduce the MBTA's ability to meet fare recovery ratios. One out of every five MBTA customers rides at a discount. These discounts reduce fare revenue by over \$26 million each year.

While discount fares for identified segments of the population are good social policy and provide a transportation lifeline for many people who would not otherwise be able to travel, some adjustments to these fares for inflation may be advisable. Moreover, these fare expenditures should become explicit line items in the overall State transportation budget and should be accounted for as MBTA revenue. This approach -- taken in other systems -- balances the need for the MBTA to be fiscally responsible with the desire to provide affordable transportation for all members of society.

Other fare pricing strategies can be considered to encourage growth in off-peak ridership where capacity exists currently and to create incentives for riders to take advantage of MBTA passes -- a steadier revenue stream which is easier to collect and which makes access to the MBTA system easier for customers. Pass redesign and expansion to include a tourist pass are first steps toward this goal. New fare collection technology could improve the capacity for more sophisticated distance-based and peak-hour-based fares, and permit smaller, incremental fare hikes to avoid "rate shock" and loss of customers.

In addition to fares, the MBTA collects about \$20 million in other revenue such as parking fees, profits from advertising, property sales and leases and investment income. Compared to other large transit systems, the MBTA funds a greater percentage of its costs with these other revenue sources.

In the future, continued efforts to increase non-fare revenue will include:

- New advertising initiatives to subsidize the costs of public information and to expand advertising to station clocks, electronic signage and bus shelters; and
- Examination of the inventory of MBTA property to:
 - Ensure that existing leases are maximized;
 - Enhance revenues by granting easements in appropriate circumstances; and

- Sell property to interested parties where there is no foreseeable use.

These efforts will help ensure that the MBTA is maximizing the revenue potential of its assets today and in the future.

The Federal Share

Federal assistance for public transportation has declined over the past decade nationally. For the MBTA, this means that the federal government will pay only four percent of the MBTA subsidy in 1990 compared to nine percent in 1982. If the 1982 percentage of federal assistance in support of MBTA operations remained the same today, federal operating assistance for 1990 would be \$24 million higher in 1990.

In a similar way, federal support for capital investment in public transit has also declined. In FY1985, the federal government funded 80 percent of the MBTA's capital program. In FY1990, that percentage had declined to 30 percent.

This national fiscal policy means that the State must assume a far greater and growing share of both operating assistance and debt service for the MBTA. Continued reductions in federal involvement must be reversed so that resources can be provided for a genuine need.

Stemming the Growth in the State's Share

The confluence of history, citizen tax limitation initiatives and legislative action has resulted in a funding structure for the MBTA where, of its four funding sources, one is capped, one is declining, and one grows only about as fast as inflation. This means that the last source -- the State -- grows at a disproportionate rate and that the State share of MBTA costs increases over time.

This study has recommended a number of ways to address this problem. First, by controlling costs, growth in overall MBTA spending will be contained. A number of ideas and recommendations have been made to increase the relative share paid by the other sources of MBTA funds.

But, lessons from other transit authorities may provide a more comprehensive solution. Many transit systems receive dedicated tax revenues that fund either the State share, the local share or both.

If the MBTA were to be partially funded through a dedicated tax:

- The cities and towns could cover more of the MBTA's budget; and
- The State could use part of the dedicated revenue to incrementally forward fund the MBTA and to fund necessary expanded MBTA service levels in the future.

A number of options might be considered to restructure MBTA funding with a new dedicated revenue stream. A regional tax, similar to the local option taxes proposed by the Hamill Commission, could be used to establish a Transportation Trust Fund. With components to fund both operating costs and capital improvements, such a fund could utilize traditional transportation tax sources as well as others to ensure that adequate funding is available not only for public transit but also for local highway, road and bridge construction and repair.

→ In reviewing future options, the Legislature should consider the fact that most current streams of revenue for transportation purposes -- namely the gas tax, the cigarette tax and vehicle fees -- fall primarily on individual consumers and users. It may be time to consider augmenting existing funds with additional revenue sources, the burden of which falls to a greater extent on businesses which benefit directly from transportation services. For example, the Conservation Law Foundation, in its 1989 Gridlock report, recommended the imposition of a transit impact linkage fee on new commercial development in Boston. An estimated 17 percent of municipalities nationwide have employed similar traffic impact fees, with a similar proportion now considering implementation.⁴

Expansion in public transportation over the last decade provided not only a way for more employees to get to more jobs, but it has also generated its own economic worth as property surrounding transit stations increased in value. Indeed, some of the economic growth in Massachusetts over the past decade can be squarely attributed to the \$2.5 billion in both State and federal capital improvement funds expended in the Commonwealth on public transit construction projects.

The region's economic vitality is critically dependent upon a public transit system which is not only as good as it is today but which expands and improves over the next decade. At many times in the past, the Legislature has examined the MBTA funding structure and proposed changes which have improved the system. Now it is time again to review MBTA financing with the goal of developing a funding structure which will support the Commonwealth's commitment to public transportation into the next century with fairness, predictability and effectiveness.

⁴ Gridlock: Facing Boston's Transportation Crisis, (Conservation Law Foundation, 1989), pp. 32, 69.

Policy Options

Chart 7-1

I. Control MBTA Costs:

- Continue reducing real cost of a mile of service
- Enact cap on tort claims (\$5 million)
- Enable MBTA to buy and sell power in wholesale market (\$2.3 to \$3.2 million)
- Reform workers' compensation law
- Contract for services when cost-effective
- Reform arbitration process to control labor costs
- Reduce debt service costs with revenue bonding

II. Provide Certainty in Budgeting:

- Adopt Crozier Commission recommendations for five-year State-wide capital planning
- Formalize "early warning" system for State additional assistance already provided by MBTA budget cycle

III. Forward Funding:

- Full forward funding costs \$600 million in FY1991
- Incremental forward funding with revenue stream may be more realistic alternative

IV. Consider Changes to Local Assessments:

- Review State reimbursement of assessment for certain communities (up to \$5 million)
- Consider internal changes to assessment formula
- Expand the MBTA district to include other served communities and those where a majority of workers commute into the current district (\$3 to \$11 million)

V. Maintain 33 1/3% Revenue Recovery Ratio:

- Maximize non-fare revenue:
 - Advertising initiatives to raise revenue and subsidize costs
 - Increase revenue from property
 - Provide MBTA Police with parking enforcement powers
- Increase off-peak ridership
- Review peak pricing strategies
- Periodic, incremental fare and parking fee increases (\$7 million)
- Make fare subsidies explicit as separate EOTC line item

VI. Restore and Increase Federal Involvement in Public Transportation

VII. Reduce State Share of MBTA Costs:

- Enact regional dedicated revenue stream so that city and town share can be increased using non-property tax revenues
- The Commonwealth could use the reduction in its subsidy to incrementally forward fund the MBTA and support expanded transit service in the future

